A RESEARCH ON CHINESE TRADITIONAL ARCHITECTURAL LANDSCAPE IMAGE

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For my parents

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Introduction

Chinese traditional architectural culture is the significant component of Chinese time-honored cultural heritage. Through the historical accumulation for thousands of years, traditional architectural landscape has turned into the common work of traditional culture and the nature, and the important content of the study of Chinese architectural history and cultural landscape as well. The landscape image formulated on the basis of abstract cognition for specific environment, the common cultural characteristics integrated with tectonic image thought and concept, and the cultural significance assessed by perception are the major carriers to bear and convey traditional landscape culture. Therefore, the image study of traditional architectural landscape is not only the important way to research the development and heritage characteristics of traditional landscape culture but also the indispensable content to construct the comprehensive assessment system of landscape culture in the view of cultural landscape study.

The interpretation of a certain geographical landscape includes researching and discovering why the geographical landscape possesses various meanings for different people as well as how their meanings are altered and disputed.[1] By means of traditional Chinese method of thinking and inter-disciplinary study of Western Psychology and Landscape Assessment, this dissertation explicates a series of related problems for image of traditional architectural landscape from a new point of view and sets up a new framework for the study of landscape image through combining the cultural attributes of landscape with the method of thinking for image. Furthermore, it expounds the cultural heritage characteristics for image of traditional architectural landscape from the perspective of time and space, historical construction and contemporary perception united with four aspects of consciousness structure, characteristics of mental representation, objective representation and implication perception, trying to open up the field of inter-disciplinary study for cultural value of landscape, which is both the further study on the history of Chinese architecture and the study to make up and enrich that of cultural landscape.

As a kind of landscape, traditional landscape is formed in the period of traditional Chinese society (221*B.C.*-- 1911 *A.D.*) in which the traditional core culture of Confucianism, Buddhism and Taoism was highly developed from the day

[1] Shao Peiren, *Landscape: The description and explanation of the media to the world*, Contemporary Communication, 2013,vol4, p.36

when Qin Dynasty unified China to the day when Qing Dynasty, the last Chinese dynasty, perished. This type of core culture dominated and penetrated the thought, behavior, aesthetic tendency, etc. of people in the traditional society, which influenced and controlled the creation and construction of all the artistic achievements. After the construction and development of various dynasties, traditional landscape integrates people's subjective cognition with landscape in the natural environment to reflect the landscape characteristics and essence of traditional culture, containing cultural landscape, such as classical garden, scenic spots, settlements, inscriptions and so on. In 1927, Carle Suhl, an American geologist, proposed the definition of cultural landscape, "Cultural landscapes represent the combined works of nature and of man.[2] designated in Article 1 of the World Heritage Convention. "Certain sites reflect specific techniques of land use that guarantee and sustain biological diversity. Others, associated in the minds of the communities with powerful beliefs and artistic and traditional customs, embody an exceptional spiritual relationship of people with nature.Cultural landscapes -- cultivated terraces on lofty mountains, gardens, sacred places ... -- testify to the creative genius, social development and the imaginative and spiritual vitality of humanity. They are part of our collective identity.[3] Traditional landscape refers to the self-consciously artificial natural environment in ancient China and the artificial imitation of the Chinese classical garden and inscriptions on precipices in the nature as the scope of definition and the two poles of the scope range respectively. As the traditional architectural landscape utilizes the natural space, possesses the architecture as the main body of the landscape and contains rich cultural connotation, it belongs to this range.

Cultural landscapes often reflect specific techniques of sustainable land-use, considering the characteristics and limits of the natural environment they are established in, and a specific spiritual relation to nature. To reveal and sustain the great diversity of the interactions between humans and their environment, to protect living traditional cultures and preserve the traces of those which have disappeared, these sites, called cultural landscapes, have been inscribed on the World Heritage List. Cultural landscapes fall into three main categories namely[4] : The most easily identifiable is the clearly defined landscape designed and created intentionally

[2] Carl O S, *Land &Life: A Selection from the Writings of Carl Ortwin Sauer*, University of California Press, 1974,P.24

[3] http://whc.unesco.org/en/culturallandscape/

[4] Cultural landscape Operational Guidelines 2008, 3

by man. This embraces garden and parkland landscapes constructed for aesthetic reasons which are often (but not always) associated with religious or other monumental buildings and ensembles.

The second category is the organically evolved landscape. This results from an initial social, economic, administrative, and/or religious imperative and has developed its present form by association with and in response to its natural environment. Such landscapes reflect that process of evolution in their form and component features.

They fall into two sub-categories:

（1）a relict (or fossil) landscape is one in which an evolutionary process came to an end at some time in the past, either abruptly or over a period. Its significant distinguishing features are, however, still visible in material form.

（2）continuing landscape is one which retains an active social role in contemporary society closely associated with the traditional way of life, and in which the evolutionary process is still in progress. At the same time it exhibits significant material evidence of its evolution over time.

The final category is the associative cultural landscape. The inclusion of such landscapes on the World Heritage List is justifiable by virtue of the powerful religious, artistic or cultural associations of the natural element rather than material cultural evidence, which may be insignificant or even absent.

Traditional architectural landscape includes two parts of tectonic landscape and tectonic plain. In which, as the double combination of nature and culture, tectonic landscape refers to the architectural landscape inspired by the natural landscape and formulated by using architectural construction technology and aesthetic tendency of harmony between man and nature according to the landscape to reflect the method of thinking for landscape construction, history and geography, customs, traditions, life style, etc. of traditional Chinese society, embodying the art and act of landscape aesthetic appreciation and cognition. And moreover, it contains both design ideas of classical garden that forms imperial palace landscape, mausoleum landscape and religious landscape of temples and Taoist, and construction ideas of evolutionary development, including the settlement landscape, villa landscape of literati. In conclusion, architectural landscape is in line with the category of the cultural landscape defined on the World Heritage. At present, four traditional landscapes, Lushan National Park, Mount Wutai, West Lake Cultural Landscape of Hangzhou and Cultural Landscape of Honghe Hani Rice Terraces, on the World Heritage List have been included as cultural landscapes, being typically representative on the

aspects of culture and technology.

The architectural landscape regarding the natural landscape as tectonic basis to construct the entity of architecture unites the characteristics of image thought and landscape concept affected by traditional culture with the space of objective representation to express the characteristics of humanity, history and culture in certain period, which turns into the landscape image perceived subjectively through the development of Space-time. While it is divided into two image types of construction and perception, including four levels of content of simulation consciousness, concept of landscape mental representation, objective space and landscape implication. Mr. Joseph Needham, a distinguished British sinologist, holds the idea that some elements with symbolism are "the patterns of universe" identified in Chinese culture, including direction, climate and other natural phenomena of a season, wind direction, stars, etc. and widely applying to palaces, temples, houses and other architectures. No matter how large the artificial construction scale is, it reflects the thought principle of harmony between man and nature and comes into the "Chinese architectural spirit". [5] Thus, the landscape formulated by architecture as main tectonic part presents symbolic objective space to form tectonic image with specific simulation thought and concept of mental representation in the construction process. Viewing perceptual medium is formed pursuant to image cognitive factors of the space of landscape objective representation and conveyed implication while viewing image assessment model is constructed on the basis of subjective and objective structure while image structure system of architectural landscape is formed by tectonic structure and viewing structure.

The first chapter mainly expounds the characteristics of thought in traditional architectural landscape image, including dimensionality reference of image, thought level of "significance" and "appearance" in landscape and the space-time characteristic of image, thus the research angle and content of landscape image is constructed. Pursuant to the landscape cultural inheritance, the thought process of traditional architectural landscape image is analyzed, i.e. tectonic image and perceived image, which is the structure venation of image research. [6] Pursuant to the archetype psychological theory, the consensus concept characteristics of traditional architectural landscape image generated by psychological cognition is analyzed, i.e. the level of landscape psychological cognition is constructed from "collective

[5] Xiao Mo, *Chinese traditional architecture and Zhouyi*, Journal of Architecture, 1993, vol 10, p.42-43

[6] Tong Ming, Dong Yugan, Ge Ming, *Garden and Architecture*, China Water Resources and Hydropower Press, 2009, p. 41

unconsciousness" to archetype and then to archetype image. Pursuant to the perception characteristics of landscape image, the assessment medium of subject-object isomorphism in traditional architectural landscape image is analyzed. Thus, the research system of landscape image is constructed from theories of three aspects.

Pursuant to the structure of "significance" and "appearance" in landscape, landscape image is analyzed with different theoretical methods from four aspects which are consciousness, mental representation, objective representation and implication. "Significance" in landscape includes landscape consciousness and landscape implication. The landscape consciousness source is analyzed from three levels which are images abstracted from viewing, images abstracted for analogy and images shown for expounding meanings by means of "symbolic thought", thus, unconscious psychology of analogy cognition is developed into the landscape simulation consciousness with consciousness. Landscape implication is the perception medium generated by perceived image, also the combination of objective substance and cultural atmosphere, which the perception factor expressing image is experienced and comprehended by the subjectivity. The "appearance" in landscape includes landscape mental representation and objective representation. Landscape presentation has modeling characteristics in the formation, classification and comprehending, thus the referential landscape template is formed. Landscape imagery thought combines myth with landscape site selection experience to generate landscape archetype, being the content and medium of "collective unconsciousness"; pursuant to the influence of traditional culture in landscape construction, it is reflected as various landscape mental representation and integrated into typical archetype image to form spatial form. Mental representation is always contained in image from landscape construction to landscape viewing, being the consensus landscape concept. Landscape objective representation is the presentation and derivation for mental representation forming abundant and various space type, the formation process of landscape image from one "presentation" to another "presentation". Objective representation has the characteristics of spreading meaning via space, which is the basis for implication transmission. The inter-structural relationship based on "significance" and "appearance" expounds the abstract and ideographical thought of landscape image. The culture attribute contained in landscape forms the inheritance and succession of time characteristics and concurrent space characteristics, being the vital carrier for culture communication. Thus, in traditional society, landscape construction generates tectonic image, while through the contemporary subjective perception and assessment, perceived image is formed. The accumulation of time and the regional development of landscape space form the thought superimposed space-time

characteristic and become the carrier correlation of traditional culture, which is the cultural value and meaning of landscape image.

Chapter 2 explores and analyzes conscious structure formed by the traditional architectural landscape image. Landscape image is derived from analogy consciousness of "symbolic thought" when constructing landscape. Tectonic thought includes conscious levels of landscape analogy, needs analogy, and building construction analogy; different styles of landscape tectonic consciousness are generated and differences of comprehension level are changed; based on the recognition of acceptors, along with the spread of culture, landscape tectonic awareness diffuse and interweave, thus tectonic image thought is generated.

According to psychologist Jung's "collective unconsciousness" theory, property of inheritance and transmission that Chinese traditional cultural discontinuity never happened make inheriting "collective unconsciousness" analogy psychology form the consensus inheritance consciousness analogy in landscape construction thoughts due to the traditional "symbolic thought".Jung Carl Gustav, a Swiss psychologist, put forward that the theory of Archetype is constructed by the transformation of unconscious instincts and experiences with the heritable content of "collective unconsciousness". [7] He proved the existence of Archetype through the common characteristics in primitive myth and that all the religious consciousnesses arising from geographical isolation derive from Archetype, which makes descendants take the same way as their ancestors to conduct cognition and behavioral responses. This theory applies to the concept study of the art field, such as poetry, painting, philosophy and so on. Based on image abstracted from viewing, landscape zoosemy or personification thought forms, objective landscape turned into imaginary landscape, and formed landscape environment with symbolic meaning. According to physical and psychological needs of structure imaging analogy from low to high, landscape becomes metaphor image of people's thoughts and behaviors. According to the needs, architectural landscape construction analogy experience of landscape matrix will be produced and architecture and nature will be connected. After forming this analogy consciousness, architecture, landscape and culture under the influence will become symbolic combination. In the process of landscape constructing, structure types of consciousness is formed, including the continuous consciousness of architectural landscape natural development and design consciousness with a certain type of constructing idea and mode. Under the influence of cultural differences, diachronic and synchronic consciousness changed, thus made people get cognition of different levels of landscapes. In the construction

[7] C G Jung, *The Archetypes and The Collective Unconscious (Collected Works of C.G. Jung Vol.9 Part 1*,Princeton University Press, 1981, P.384

different culture, and forms a stable inheriting system. With the migration, inheritance and diffusion of culture, consciousness formed epidemic diffusion of style, similar diffusion of structure, and inheriting diffusion of shape and structure. It is the base of keeping same tectonic image of landscape across time and space. With the update and fusion of culture, landscape consciousness interweaved. According to the formation and change of this kind of consciousness, tectonic symbolic thought is formed.

In chapter 3, it will be used to prove that traditional architectural landscape with diversified tectonic ideas and landscape forms has turned into typical ideas and cognition. Jung's archetype theory is the theoretical support point of this chapter. Based on comparable cognitive and landscape imaging consciousness of “collective unconsciousness”, it explains mental representation features of the traditional landscape architecture, including forming concept origin of mental representation, classifying traditional culture root of mental representation and mental representation integrated typical archetype image and spatial characteristics of materialized mental representation, which is physical character of tectonic image think pattern investigating landscape prototype. Landscape origin of common view reflects into many kinds of mental representation. Based on the communication and direction of traditional core culture landscape-oriented awareness, mental representation can be clarified into prototype imagery, and it is materialized into specific space character, which is the root of landscape objective representation., conscious development and influence of comparative cognition in primitive society as well as characteristics and types with regularity arising from landscape concept will be analyzed herein.

Prototype of traditional landscape architecture perceived image is the content and medium of “collective unconsciousness”, converted from scenic landscape tectonic image. The formation of two prototypes are based on the content of unconscious myths and site experience in landscape architectural construction, including faith in totem and caves with good Feng Shui, is the metaphor thinking for landscape spatial form and the location selection, and this reflects to Kunlun Mountain, Penglai myth and ritual system palaces and other appearances. Due to traditional cultural roots inherent in landscape structures consciousness, core culture of Confucianism, Buddhism and Taoism affect traditional social architecture behaviors and thoughts, and formed faith and blessing, aesthetic taste and propriety of normalization convey different level of consciousness, so that landscape mental representation is reflected in landscape. According to deification and orientation of particular culture, mental representation is integrated into four archetype images, including fairyland, pure land, respect and Xanadu ceremony. Fairyland is from the way of thinking and the pursuit of an ideal metamorphosis wonderland philosophy;

pure land is from empty net non-Buddhist philosophy and illusion of ideal Buddhism country; respect is with no specific landscape illusion, but because of cultural traits grade, it formed into an ideal order metaphor; Xanadu is an ideal gathering concept based on the concept of basic survival. These four archetype images have formed the spatial character of mental representation due to spatial dimensions, space level, space concept and spatial configuration. Not only the concept of space component elements contains special cultural significance, but also tectonic idea contains both shape and configuration concept of cultural landscape features.

In summary, because cognitive psychology and perceived image thinking of "collective unconsciousness" has formed the landscape prototype consciousness, is projected into concrete landscape appearance, classified into four typical prototype images, becoming formation process of tectonic image from consciousness to appearance.

Chapter 4 takes characteristics of objective representation characterized as the research object, spatial types of traditional architectural landscape image objective representation, and the relationship between cognitive configuration and communication features of images are discussed. According to the materialization of landscape spatial appearance, a space-derived type is formed, which is a tectonic image formation process from the appearance to image configuration. Based on subjective cognition to objective representation elements, texturing relation analysis is carried with space syntax, indicating that landscape objective representation has a nature for spatial implication transmission. The concept of tectonic concept refers to the use of rhetoric on behalf of the cultural vocabulary and integrated presentation method, and a double material carrier configuration and viewing the scene is formed, so that the image of the idea of consciousness extends to the level of actual physical space characterization.

Based on imagery process of landscape images to the concept of landscape, it analyzes the representation of space in the form of images, so that the landscape is not just the images and ideas but to become a virtual sense which can be intuitively experienced, thus forms a specific space type. According to landscape and building construction, combined with orderliness, concealment and revelation of the rhythm, images become cultural ideas arising from physical space body. Thereby, clarifying the relationship of structure scene consciousness, and physical concept appearance and objective representation, traditional architectural landscape tectonic image system is built up based on non-material and material level.

According to the spatial attributes that objective representation can be cognized, comparing the similarities and differences of landscape architecture and urban images, with the same point of building and perception interface, combined

with spatial cognition feeling to images of people, spatial cognition elements in material aspects are raised up, namely paths, nodes and markers. With space syntax theory, based on the spatial configuration relationship, simulation analysis of the relationship between the independent cognitive feature is carried out. Space Syntax is a series of theories and techniques about spatial graph analysis. The books, such as *Space is the Machine*[8], *The Social Logic of Space*, written by Bill Hiller at University College London in the 1970s regard the space as a part of study of Sociology. Thus, Space Syntax has now been formed as a complete set of theoretical system and software technology for specialized spatial analysis. Hiller used the word "syntax" to refer to a certain rule of the space so as to interpret the related logical relations of the non-existent space, and established a basically perfect study system of Space Syntax in 1977. In this article, he firstly proposed the Syntax Theory organized by architectures and residential space, and used the theory on the study of Urban Science, Architecture, Landscape and other related research. Followed by Cognitive Theory, Space Syntax divides the city into the city of men and the city of material based on the related space design of the city and the dual levels of humans, relates human behavior, experience with the structure of urban space to provide a common platform for the study. Alan Penn attempted to combine the theory of Space Syntax with that of cognitive science to open up the direction in the field of virtual reality for Space Syntax.[9] It tries to analyze the logical relation of space configuration for cognitive factor of image in the space of landscape objective representation from the level of rational science, and compare it to the landscape concept of Archetype image in order to expound the function of implication transmission in landscape objective image.

Thus it could be explained that objective representation is formed due to cultural ideas, but also convey the concept of characterization through relationship between spatial elements and their configuration. So that people see not only the objective existence of the material, but also, through their experience of cultural connotation, a traditional architectural landscape images as an individual substance which has the function to convey intangible cultural spatial implication. Vocabulary in the material and cultural traits combined to produce anaphora, depending on the configuration, it formed into rhetorical methods to convey the landscape implication, and a dual structure by both structure and perception converse timing convey cultural development, which reflects the important role of objective representation

[8] Bill H. *Space is the Machine: A configurational theory of architecture*, Cambridge University Press, 1999, P.35

[9] Al-Sayed K,Turner A, Hillier B, Iida S, Penn A, *Space Syntax methodology*, Bartlett School of Architecture, UCL, 2014

to tectonic image and perceived image that links the space.

On the basis of tectonic image research formed by the consciousness structure, characteristic of mental presentation and objective representation of traditional architectural landscape image, Chapter 5 conducts landscape perceived image analysis and construct assessment model with the different levels perceived by landscape implication. It adopts the sociological analysis method, according to public subjective perception, through the correlation of perception factors in perceived image assessment model, compares the concept of landscape construction and space representation, thus the landscape image research system is constructed.

"Heritage and Landscape as Human Values"is the theme of 18th ICOMOS conference. It proposed "landscape are perceived by people，perception of landscape and associations between people and places are one of the key factors to shape heritage values, place identity, sense of place and community cohesion." "Identification of heritage significances by using various innovative tools and methodologies.Tools:values assessment, mapping, drawing, monitoring, field data collection and data management."[10] Therefore, Landscape assessment theory can be used to assess landscape quality in landscape planning and design. Landscape planning and design not only satisfy people's activities but also coordinate the harmony between people and the environment. Ecological system, spatial structure, background of history and humanity are the inherent attributes of landscape, the cognition of which is the main content of the environmental investigation and assessment. The rapid development of industry, energy, transportation and other undertakings leads to severe destruction of natural landscape resources. Due to the lack of valuable measure standard, the protection and design are limited, which has stimulated the development of aesthetic study of scientific landscape mainly for the visual aesthetic significance of landscape--one of the cores of landscape and landscape garden, which was developed in the United States as the center since 1960s. This theory originating from this refers to the assessment for resources of various aspects, such as landscape visual quality while it means landscape "visual quality" from the objective meaning, and from the subjective meaning, it presents people's understanding for "landscape value" and the subjective satisfaction provided by the landscape on the aesthetic sense. On the stable individual differences of cognitive structure, cognition and emotion are important factors to explain the individual decision and behavioral process, meanwhile emotion is

[10] The summary of theme 2 of the 18th ICOMOS Conference

affected by cognition. Cognition--Affective Processing System provides a comprehensive viewpoint, including the variability of behavior and the stability of personality characters of the people who conduct the behavior so as to research people's initiative to accept information. Peripheral information is a kind of objective existence around people. Due to its important significance for people or some certain characteristics, it is perceived and received by people selectively and has turned into active exploration of people. This chapter combines the tectonic factors existing objectively with the subjective perception, interacts with the elements of implication perception to construct assessment model of landscape image, relates tectonic image with perceived image of traditional architectural landscape, perfects the structure levels of landscape image study and reflects the development characteristics of Space-time and cultural value significance of landscape image.

According to the archetype image cultural trait, abstract cognition of objective representation space and the cognition depth from atmosphere to culture as well as from surface to center contained in landscape implication, perception level is formed; combining the perception behavior activity of movement and still alteration, and perception process of the unification of feeling and consciousness to construct landscape implication perception structure. According to the material and atmosphere level in perception structure, implication perception medium is abstracted, including three types of natural, artificial building and cultural factors to indicate that the characteristics of landscape image becomes the landscape image assessment object. Use the specific landscape to construct image assessment model. Due to the cultural landscape heritage the West Lake has specific space structure and cultural trait, "Ten Scenes" of it are adoted as the assessment object. In Ten Views of the West Lake, tourists and local residents are adopted randomly as the assessment subject to conduct the questionnaire survey of perception factor image level, thus the image assessment system of isomorphism between subject and object is formed.

Use SPSS software to conduct data processing of factor perception level, adopt reliability and validity to verify the effectiveness and credibility of factor perception result. Use the principal component analysis quantification to conclude perception factors, forming five factor attributes of architectural environment, landform matrix, random weather, sound environment and cultural environment to as the indexes of model construction. Adopt SEM to conduct quantitative analysis on the conceptual model of factor attribute relation, through the carrier of data and model construction, direct quantify the correlation of factor and its attribute during the landscape viewing process, and refer to the data standard to modify the model, thus the perceived image assessment model is constructed by the image factor attribute

formed by subjective perception. Based on the contrast of factor relevance in landscape concept of tectonic image and perceived image, it explains the cultural transmission trait of landscape image. According to the difference of subjective social background, it analyzes the difference of factor perception degree and provide reference for humanized landscape design.

Chapter 1 Characteristics of Thought in Traditional Architectural Landscape Image

The traditional architectural landscape image is the symbiotic cultural complex of entity and culture. The consciousness and concept of the constructor and perceptive assessment of the audience are contained in the landscape space which is formed by the combination of manual work and nature in traditional society, thus dual thought process of tectonic image and perceived image are formed. Thereinto, as the analogy cognition to landscape entity is influenced by "symbolic thought", landscape construction thought forms landscape consciousness; with the psychological effect of archetype, landscape construction concept comes into being the specific mental representation form; space types are produced on the basis of the derivation of objective representation and the meaning is hereby spread, thus the landscape implication is experienced by the subjectivity through viewing. Therefore, the correlative function of "significance" and "appearance" of the landscape is formed. Landscape image is always endowed with the same or different explanations due to the development of time, possessing space-time characteristic as well as becoming the inheritance carrier of culture. Thus, landscape image is the thought carrier for people to cognize landscape, experience and comprehend culture.

1.1 Theory analysis of architectural landscape image

Image is the unification of "significance" and "appearance". "Significance" refers to the affection of intention, idea, wish, interest and charm that experienced by the subject; "appearance" has two kinds of states: one is objective representation, which is the objective representation of object, the image presented by the objective object (natural object or human being or object), the objective existed object with physical state; the other is mental representation, which is the reflection formed by perception of things and the ideaistic thing existed in the mind of subject. All objective representation or mental representation contains "significance" can be called "image". [11] The research system of traditional architectural landscape image is made up of analogy consciousness, mental representation of landscape, space of objective representation and perceived implication. (Fig. 1-1) Architectural landscape is constructed following the nature of mountains and rivers on the premise of considering the self need of the subject and respecting for the original form of nature, emphasizing the nature principle of harmony between human and earth as well as artistic conception. Such landscape consciousness source is not altered by space or time, while the type of landscape construction concept is produced to work in concert with the spatial form presentation of archetype image,

[11] Hou Youbin, *Chinese architectural aesthetics*, Heilongjiang Science and Technology Press, 1997, P.252

which becomes the combination of traditional culture and material. Thus, landscape implication is hereby perceived by the subject.

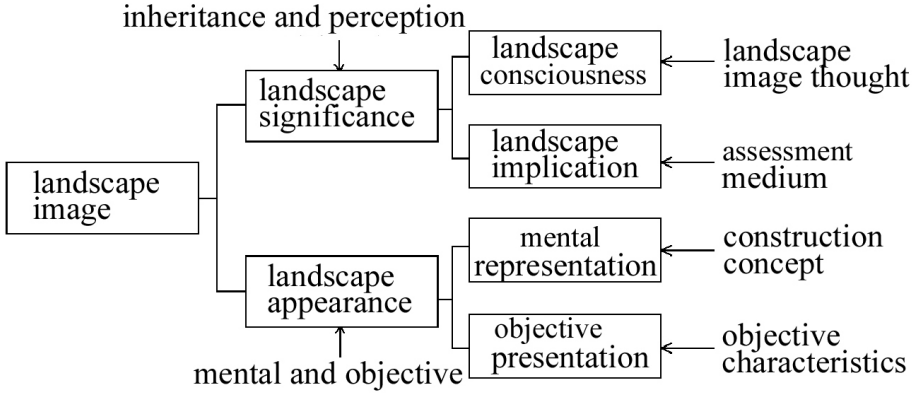


Fig.1-1 Referential dimensions of landscape image

1.1.1 Thought process

"Significance" and" "appearance" are derived from artistic thinking. Because objective things resonate with subjective world view, outlook on life, moral values, and the values and reflect ideal pursuit and emotion, associative thinking activity will be produced, thus forms the imagery thought which is different from ideal thought. [12]

Chinese traditional culture pursues appearance out of indication. Imagery thought of significance beyond the appearance is the consciousness basis of forming landscape image and makes up the material and non-material cultural foundation. It may be the transformation or exaggeration of some objective scenery outline, or generalization and abstraction of one or more typical characteristics of the appearance or inner spirit. [13] Under the influence of traditional culture to landscape construction consciousness, "symbolic thought" forms simulation consciousness and tectonic concept through mental representation, deriving and presenting through real existed objective representation to convey implication. By means of this kind of tectonic image, perceived image assessment is formed. (Fig. 1-2) Tectonic image thought is derived from traditional society, while perceived image thought is generated by contemporary people. By means of intercommunity of different space-time background and tectonic image to establish research system of landscape image and embody the role of image as a kind of cultural inheritance.

[12] Zhujing, *Outline of imagery thought*, Jiang Science and Society Press, 1992, vol.6, P. 108
[13] Dingshaogang. *The theory of landscape image. Chinese Garden*, 2011,vol.11, P. 108

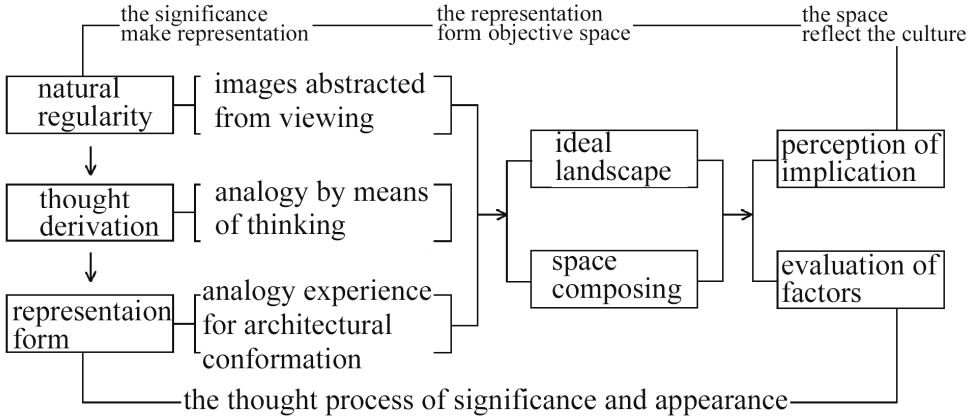


Fig.1-2 The thought process of landscape image

1.1.2 Psychological cognition

Collective unconsciousness, archetype and archetype image form the psychological cognition structure generated by landscape image. Traditional architectural landscape image is derived from specific forms of tectonic concept. Mapped as archetypal image, it is created by essential psychology of collective unconsciousness and imagery thought.

Consciousness formed by people from the material world endows unconscious mind significance. Archetype is the connector of "collective unconsciousness" and archetype image and is the intermediary to express its content. People created the same or similar image in different areas through "numerous types of trace in heart" from ancestors. [14]They endow archetype connotation and significance. Archetype has preset mode, so that people make the same choice as the ancestors made in the landscape practice.

Archetype image is the archetype reflection conveys emotion that can be perceived. Affected by traditional culture, it represents people's landscape aesthetic cognition and forms the pattern of landscape concept. Archetype image is the specific representation of archetype. Once activated, it will become a symbol of spirit and culture connotation through traditional architectural landscape development. It may make people's landscape construction and perception show unified behavior and ideas, and is a reference template of landscape image construction.

Archetype of traditional architectural landscape is based on people's perception of landscape and collective unconsciousness which has achieved psychological heritability level. It is not only a kind of consciousness and content, but also an

[14] C G Jung. *The Archetypes and The Collective Unconscious* (Collected Works of C.G. Jung Vol.9 Part 1,Princeton University Press, 1981, p.384

archetypal image with specific visual representation. It is the system structure of landscape image concept and becomes the reference system of landscape image. (Fig. 1-3)

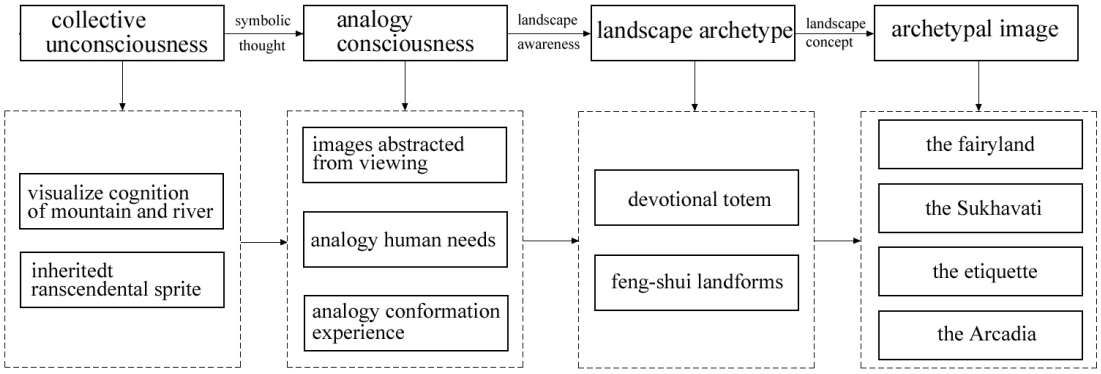


Fig.1-3 The construction of landscape archetypal image

1.1.3 Perception assessment

Traditional architectural landscape image comes from image thoughts of landscape construction, with subjective experiences and insights within landscape implication generated from landscape construction image forms the image thoughts of landscape viewing. Therefore, the perception factor of landscape implication is the assessment medium, which carries the cultural traits and symbolic meanings of landscape construction image and combines with subject cultural background and viewing actions. It is an assessment process based on subject-object isomorphism resulting in varying levels of cognition that influence the image assessment result directly. "Perception is the intention and behavior to obtain meaningful information subjectively through development and characteristics of things to guide people from the cognition." [15] Through the psychological processes from sense to perception, the image experience from exterior to interior is formed with varies from person to person and similarities generated from homogenous culture. The assessment system of traditional

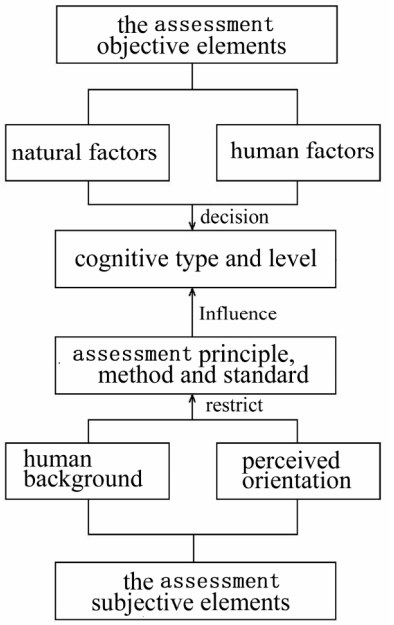


Fig.1-4 Assessment system of landscape image

[15] MC Aufhauser. *The Phenomenology of Aesthetic Experience. Journal of Philosophy*, 1975,p. 72

architectural landscape image is constructed. (Fig. 1-4)

Traditional architectural landscape is artificial natural landscape stands upright for thousands of years that perceived by subjective viewing in contemporary times. The material level of landscape implication is a direct level of assessment, a perceiving medium mostly directly experienced by people, and the objectively existed individual, including physical and non-physical factors. Landscape implication is the objective part of subjective assessment when it is viewed and perceived. People generate imagery feelings of impression and discernment due to the form, situation and astronomical phenomena change of landscape objective representation, which are endowed in the space of objective representation to reach the subjective consciousness judgment assessment. It is the deep level of image assessment. Assessment is a series of process of subject viewing, feeling the landscape, generating emotion and having perception, which is obtained during the process of unification between human beings and landscape. It receives a comprehensive result from superficial level to deep level through the direct judgment to landscape space and characteristics by visual sense and auditory sense and combining the emotion of subject and social background. The behavior and psychology of subject reveal the tectonic consciousness and characteristics of concept, and assessment generates the perceived image with the characteristics of the times and cultural accumulation.

1.2 The content of "significance" in architectural landscape

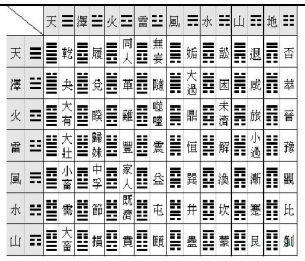
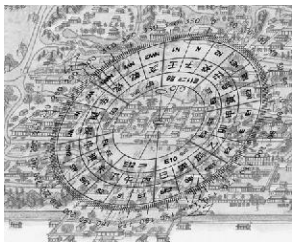
The traditional architectural landscape image is a kind of abstract landscape thought composed of consciousness and implication which are the research content of "significance" in landscape.

1.2.1 Landscape consciousness

Landscape simulation consciousness is derived from the inheritance of "collective unconsciousness" psychology, which is the vague analogy cognition to natural landscape. Different from the conceptual thinking in the contemporary society, the ancient Chinese way of thinking is the "symbolic thought", using "symbolic" mode to cognize the objective world by means of imagination, association, analogy communication, etc. This way of thinking makes the object not only an existent individual, but also a kind of existence with metaphor, directivity and subjective assumption carrying people's subjective consciousness, which forms the process of "images abstracted from viewing". Landscape construction subject makes analogy between the image abstracted and the instinct demand, using the representation of imagery thought and logical thought, producing images abstracted

for analogy by means of thinking mode of induction to deduction and individual to general, and reflecting the consciousness to the classification, deduction and abstract of the objective things. It enables the analogy consciousness to form different figurative meanings. Finally, analogy for architectural conformation presents the figurative meanings to explain the connotative world view, cultural connotation and aesthetic interest. It forms the analogy experience of building in landscape construction and combines mental image of analogy to constitute the simulation consciousness in landscape construction, which is the source of landscape construction imagery thought. (Tab. 1-1)

Tab.1-1 Though process of landscape symbolic thought

Types	images abstracted from viewing	analogy by means of thinking	image conformation reflects significance
example	 divinatory symbols [16]	 Feng-shui symbols [16]	 Landscape symbols
thought	the psychology of shan-shui analogy	the analogy follows human needs	the construction follows nature

1.2.2 Landscape implication

Landscape implication is a part of the image formed from cultural attribute and trait implied in the landscape experienced by the subjectivity, which is a kind of imaginary inner feeling caused by entity. Image assessment comes from the dual representation perception and implication includes the object of symbolic and actual isomorphism, which is the product of psychology, i.e. mental landscape image. Information structure mode is derived from the cognition representation experience, including mental image and so forth, which is the projection caused by people's feeling rather than the objective existence. [17] Thus, the experiencing and comprehending relationship between human and landscape implication is established. It combines subjective feelings with landscape consciousness and concept to resonate and form perception thought having cultural significance, i.e. perceived image.

[16] *Zhouyi·Image*,Liaohai Press, 2011

[17] Robert J S.*Cognitive psychology*. Wadsworth Publishing, 2011,p.89-90

The landscape implication experienced by the subjectivity is to conduct assessment and judgment depending on visual sense, auditory sense and personal social background through material and immaterial factor to feel the landscape construction image comprehensively produced by landscape substance, artistic conception atmosphere and cultural connotation, and form the mental feeling factor which is from thought. America cognitive psychologist Catherine believes: "Surface representation with sensory pattern recognition and deep representation with embodiment on the memory cognition to objective things are the factors constituting mental image." [18] Therefore, the mental image cognition process of factor is the perception process of implication, including the surface assessment of form and space characteristic experienced by objective entity; and the special deep mental image assessment formed by abstracting the information in the surface characteristics, overlapping the cognitive cultural impression in memory and further conducting psychology disposal. Galton from UK firstly conduct quantitative assessment on mental image questions by the means of questionnaire, which means that mental feeling can adopt quantification mode to conduct assessment on the mental reflection of objective object. Thus, perceived image assessment structure based on landscape implication perception is formed.

1.3 The content of "appearance" in architectural landscape

The content of "appearance" in architectural landscape includes mental representation and objective representation, which is a kind of landscape thought representing traditional culture and having the function of sending meaning.

1.3.1 Landscape mental representation

The traditional architectural landscape produces archetype due to the consensus landscape consciousness and reflects as archetypal image, i.e. landscape mental representation. Carl Gustav Jung said: "Unconsciousness inherited from ancestors always exists in human's behaviors." [19] As the intermediary performance of the content in "collective unconsciousness", mental representation has the psychological basis and cultural trait inheriting from the isogenies from classification, presentation to being comprehended. Through researching from the most basic material life to the synthesis of all kinds of traits, Whistler believes that there exists a kind of "general model" that "have the universality of all ancient and

[18] Catherine S. *Origins of Cognitive Skills: The 18th Annual Carnegie Mellon Symposium on Cognition*. Psychology Press, 1984

[19] C G Jung, *Human and Representation*, Beijing: China International Broadcasting Press, 1989, p.102

modern cultures". [20] Thus, mental representation is modeled, which forms the landscape concept type can be presented and comprehended.

Mental representation is the perceptual image on things caused by people's concept [21], it is the landscape concept reflected from the landscape archetype. "In human being's spiritual world formed by inherited unconsciousness, closely linked and variant archetype reflecting cultural connotation is produced." [22] In traditional society, due to the worship to myths and legends and religious belief, the landscape described therein is reflected as the mental representation of architectural landscape through landscape consciousness archetype, forming the model based on cultural traits. (Fig. 1-5) Cultural origin of traditional architectural landscape is the pursuit of the harmonious coexistence among heaven, earth and human beings in traditional Chinese culture. Culture in Confucianism, Buddhism and Taoism all imply the influence on landscape construction thought, making the symbolic psychological cognition conform to the real environment, avoiding the limitation of personal cognition, forming the classification pattern of mental representation and producing the typical archetype image and specific form. Mental representation enables people to have genetic memory for the landscape comprehending. It is the psychological pattern accumulated by human being's physiology and social practice, a kind of cultural phenomenon and the common mental thought beyond personal mental level but commonly existed. In traditional society, as people have consistent worship to landscape, consistent hierarchical intensity of bondage and consistent origin of culture, mental representation is a kind of joint landscape concept to be comprehended.

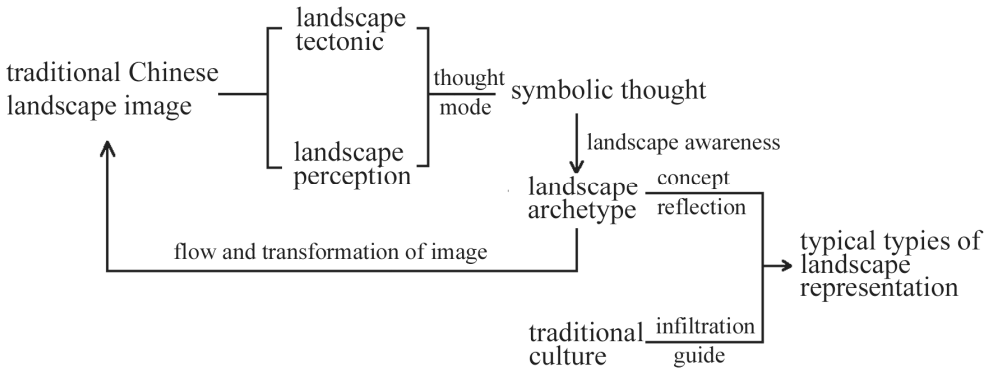


Fig.1-5 The formation of landscape representation

[20] Robert B, *Landscape Assessment for Planning and Design: Seeing the Landscape Again for the First Time*, VDM Verlag, 2008

[21] Feimeretal, *Evaluating the Effectiveness of Observer based Visual Resources and Impact Assessment Methods, Landscape Research*, 1981,Vol.6, p.12-16

[22] Gong Zizhen, *Qing Dynasty. The collected edition of Gong Zizhen*, Shanghai Ancient Books Publishing Company, 1975: 16

As the landscape consciousness and cultural traits form the fixed model, from the formation to being comprehended, landscape mental representation reflects the archetype with mental representation of space trait to become the template presented for objective representation, and forms the comprehending model from landscape construction to perception through the carrier of objective representation.

1.3.2 Landscape objective representation

The landscape consciousness and archetype landscape mentality of "symbolic thought" endow the traditional architectural landscape with the concept and aesthetic tendency in construction. The objective representation presents its derivation by the space of entity, produces cognitive factors of objective representation and embodies ideal landscape concept with configuration relationship. Just as more than thirty spaces summarized by Henri Lefebvre, there is no existing word. Lefebvre uses "Space is never empty, however, it often contains some certain meaning" [23] as the ending of all these "spaces". This explains that space is not only substance individual, but also having the function of cultural meaning spread.

The spatial form of mental representation forms various space types through the derivation of objective representation and presents tendency trait. Landscape objective representation uses spaces of mountains and rivers as the carrier to make the landscape concept converted into objective representation entity which can be experienced and comprehended. It is the significant meaning of landscape endowed by traditional culture and thought, and the material basis of the formation of landscape image. Symbol contains vague while unknown things and is invisible. [24] Symbol makes the mental representation to embody unseen and unknown imagination to people with the specific spatial form. In the actually applied construction of landscape, landscape objective representation enables symbolic landscape consciousness and landscape concept to become artificial landscape entity which can be viewed, experienced and comprehended. "Mental representation constitutes objective representation that human beings can feel through substance". [25] Thus, objective representation presents the mental representation, which is the entity of concept through derivation. "We comprehend the objectively existed world

[23] Alexander, Christopher and etc, *Architectural pattern language*, Intellectual property press, 2001, p.12

[24] C G Jung. *Psychological Types*. Important Books, 2013, p.575

[25] Archive for Research in Archetypal Symbolism. *The Book of Symbols: Reflections On Archetypal Images*. Taschen, 2010, p.576

to form psychological cognition and deduction." [26] Objective representation of traditional building landscape is the exterior space of building, which not only is constituted by entity factors, but also has the transmission function of landscape culture. It is the material carrier combined imagination with reality. Because of the transmitted cultural thought, traditional Chinese building landscape space becomes the main carrier for the ancients to realize ideal landscape form and to record hierarchy etiquette culture, and combines entity with visional environment which not only integrating natural environment but also beyond imagination.

1.4 Space-time characteristic of architectural landscape image

It is the common characteristic that characteristic of space and time is inseparable intertwined and implied in many works of art. Because of its peculiar historical deposition of timeliness level and geographical compatibility and isolation of spatial level, it has become a kind of constantly perceived cultural combination. Time is paraphrased as inheriting perception of landscape image, while space is paraphrased as pluralism of landscape image. Based on the historical development and cultural roots that can still be perceived across space region, it is the cognitive result of coordination of history, culture, nature and subjectivity that landscape forms image from structuring to observing perception.

1.4.1 Time characteristic

Time characteristics of landscape image not only includes landscape construction record for a particular time, i.e. the time sequence expression of landscape space, but also contains the characteristics record of development and formation from structuring to viewing. It is the compound time sequence with constant and superposition.

People realize nothingness through time, but no one can clearly expound the true definition of time. Heidegger thought himself "thought to the halfway" in the book *Being and Time*. [27]Nothingness and difficulty to defining of time make bearing entity into another way to promote understanding. Kant said: " Time is the transcendental form of consciousness, and it has subjective cognition." [28] The cognition which is considered to be human's congenital perception is a root of time recording and spatial representation of landscape, and is the image creation process from realizing to structuring landscape. Some scholars think: "Time is generally

[26] Vincent Brom,*C G Jung: Human and Myths*, Xinhuashe Press, 1997, p.140-143
[27] Martin Heidegger, *Being and Time*, Harper Perennial Modern Classics, Reprint edition , 2008
[28] Immanuel Kant, *Critique of pure reason*, Penguin Classics; Revised edition, 2008,p.156

considered in two forms. One is subjective time, it is people's perception of time, and it has nothing to do with objective time, which usually reflects in spatial sequence. [29] Through landscape space order sequence, people recorded subjective time, such as the presentation of human sustainable settlement construction to the clan development and the presentation of mountain landscape construction to the process of emperor offering sacrifices to heaven. It made landscape exist a kind of specific record of time sequence or moment. It is the constant perception process of landscape image, which forms the time level of landscape image.

Time characteristics of the landscape image rooted in cultural heritage. It means traditional culture has never disappeared, and always existed in people's mind. People's understanding of cultural related content is brought into perception of landscape, which makes traditional architectural landscape become objects with special mark. In the process of viewing, special cultural characteristics may cause subjective identity feeling, so landscape image is combined with viewing, and a multi-level and multi-angle definition of traditional architectural landscape is formed, which is the explanation of time superposition and epochal character.

1.4.2 Spatial characteristics

Compared with the nothingness of time, spatial characteristics of image has clear differences in the process of landscape construction. Kant said: "Space is the external form of thing's phenomenon."[30] Therefore, space level comes from the effect of culture, which is to interpret the cultural traits of the material world by space and generate subjective perception.

The sequence type space of traditional architectural landscape is often used to reflect the image from ground to heaven. Royal road for sacrifices in Mountain Tai, the sacrifices progress from the entrance of the Ming Tombs to the mausoleum, and the space level of some mountain temple architecture landscape starting from the front gate to the great Buddha's hall, are all the traditional society's presentations of world view, which combine heaven, ground and human beings together. In the process of subject's behavior, spatial level is presented with the change of nature, and eventually becomes a whole image perception. Because culture in the flow of the space, it forms spatial characteristics of image. The reason why local culture occupies a dominant and unique region is bound to retain their own uniqueness and characteristic culture rise. In the face of rejection of native culture, some common cultural factors still broke through the resistance of culture, and still retained the attachment and submission relationship during culture blending. Landscape

[29] Sigfried G. Space, *Time and Architecture*, Harvard University Press, 2009, p.69-71.
[30] Immanuel Kant, *Critique of pure reason*, Penguin Classics; Revised edition, 2008,p.80

image formed in this way is with well-bedded spatial characteristics, such as a variety of traits of culture blending presented by some settlement landscape, or the combination of three religions Confucianism, Buddhism and Taoism -- Hanging Temple. Cultural exchange created these landscape space images. They are experienced by people from everywhere and then formed the spatial characteristics of landscape image.

Chapter 2 Conscious Structure of Traditional Architectural Landscape Image

Traditional architectural landscape image derives from the transformation of unconscious psychological analogy cognition through conscious "symbolic thought" by people in traditional society, having the collective consensus. From wide view of the landscape tectonic consciousness, they are varied but have united mode of thought. Based on illusory specific life instinct (collective unconsciousness) which cannot be visualized, it is the enduring accumulation in the process of comprehension and tectonic landscape behavior of landscape in the long history, and is a combination of one or more tectonic concepts. Concept is derived from the formation and development of culture. Because Chinese culture is the result of "symbolic thought", [31] which makes landscape construction consciousness match the needs of people and natural attribute. Two types appear and change, furthermore, they are identified, diffused and interweaved by acceptors, thus build the consciousness structure of landscape, and produce landscape imagery thought.

2.1 Analogy of landscape construction consciousness

According to psychological research, people always find similar image experience in works of art. It is a kind of cultural enduring accumulation and psychological heritage that inherited by human beings or race during the past long years. It reflects "collective unconsciousness" psychological cognition which plays a "universal" role, and through analogy consciousness to express people's common desire, intention and emotion. This is neither derived from personal experience, nor individual acquisition, but innate. [32] It has no obvious difference in individual, but has the ultra-personal common psychological basis, and commonly exists in the same period, even in the inheritance thought of offspring. “When a man under the domination of the collective unconsciousness, as long as facing the similar environment as the ancestors, he will take similar actions as the ancestors without the assistance of experiences.” [33] Based on the unconscious mind, “symbolic thought” makes people in the process of image construction analogize deep unconsciousness as psychological inheritance. Based on conscious tectonic landscape thought and association of appearance, landscape simulation consciousness forms associated with people's consciousness of landscape, needs and experience.

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[31]Wang Shuren. *Return to the original thinking—The Chinese wisdom in the field of vision of “Symbolic thought”*.Jiangsu Press, 2005, p.10

[32] C G Jung. *Architype and Collective Unconsciousness*. International Cultural Publishing Company, 2012,p.18

[33] Ann C. *Carl Gustav Jung*. SAGE Publications Ltd, 2001, p. 54

Tab.2-1 The imagery thought of tectonic landscape

image abstracted from shan-shui	the analogy object of shan-shui	the analogy illusion of shan-shui	the analogy morality of shan-shui
analogy awareness	totem of animal and spirit	myths and legends	virtue and moral character
landscape awareness	special form of shan-shui makes landscape imagination	special atmosphere of shan-shui makes landscape imagination	Special human metaphor of shan-shui makes landscape imagination
landscape	 turtle type of shan-shui [34]	 fairyland of shan-shui[35]	 upright metaphor of shan-shui

2.1.1 Landscape analogy consciousness

Chinese traditional culture origin is associated with landscape, and is the result of previous world outlook and awareness of landscape aesthetic standard. The ultimate goal is to pursuit harmony and balance between human beings and landscape, and it is a kind of devout esteem and worship to landscape. Based on landscape images abstracted from viewing of “symbolic thought”, the interaction relations of human and landscape is generated, and harmonious zoosemy of human, nature, architecture and moral comparison consciousness of landscape formed.

Landscape with its diverse forms, natural physical environment and meteorological phenomena which is difficult to interpret turns into the carrier of myth. (Fig. 2-1)Mountain becomes analogy of fairyland and feudal etiquette thought. Tai Chi space is surrounded by five main mountains and girdled by four main rivers. Cities can be built in big Tai Chi space, prefecture and village settlements can be set in middle Tai Chi space, and residence and grave can be established in small Tai Chi space, which are the geomantic rules of traditional architecture fengshui theory. (Fig. 2-2)The analogy cognition is the combination of people's wisdom of site selection, yearning supplication and landscape appearance.

[34] Wu Qingzhou, *The symbol image of the ancient city construction*, Chinese Building Industry Press, 2015, p.10

[35] Yuanjiang, Qing Dynasty, *three mountains in the sea*, Nanjing Museum

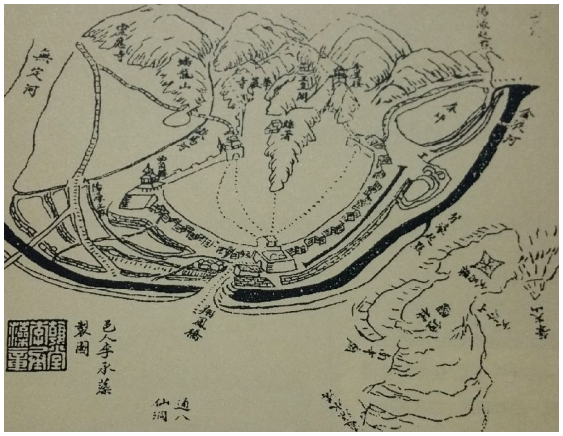


Fig.2-1 the phoenix analogy type of Mizhi village(563 *A.D.*)[36]

Fig.2-2 the Tai-chi analogy type of Xiaogan xi village

Traditional society is the highly developed era of social productive forces in ancient China. Cultural exchange of a hundred schools of thought led to the splendid traditional culture. Literati compared themselves as landscape and turned construction landscape into the unity of character, thought and disposition. Because seclusion prevailed, hermits of literati structured in landscape and depended for concept and desire upon. Such as Lanting of Shaoxing located in the landscape, where a famous calligrapher of the Eastern Jin Dynasty Wang Xizhi invited 42 scholars holding a grand meeting of 'Floating wine cups along winding water' （Drink water from a winding canal with one wine cup floating on river so as to wash away ominousness）. They built pavilion on the mountains and near river for tasteful behavior which symbolizes the morality of literati. (Fig. 2-3)

Fig.2-3 The morality analogy consciousness of Lanting in Shaoxing (353 *A.D.*)

（Painter Wen Zhangming·Ming Dynasty）

[36] Wuqingzhou, *The symbol image of the ancient city construction*, Chinese Building Industry Press, 2015, p.10

2.1.2 Needs analogy consciousness

Metaphor “appearance” which is generated from analogy consciousness is built in landscape, and is derived from subjective psychological needs guidance. Maslow puts forward the Maslow’s hierarchy of needs, and he believes that this sort of conscious needs is generated from the unconscious cognition, which contains people’s rich experiences and appropriate skills. [37] "Symbolic thought" of landscape not only stays in perception level, but also forms landscape hierarchy analogy thought by combining human psychological needs. According to the psychological needs derived from landscape construction, it can be divided into existent needs, defense needs, belongingness needs, respect needs and autognosis needs, thus make people from different ethnic groups, classes or regions keep same imaging for analogy process of consciousness. (Fig. 2-4)

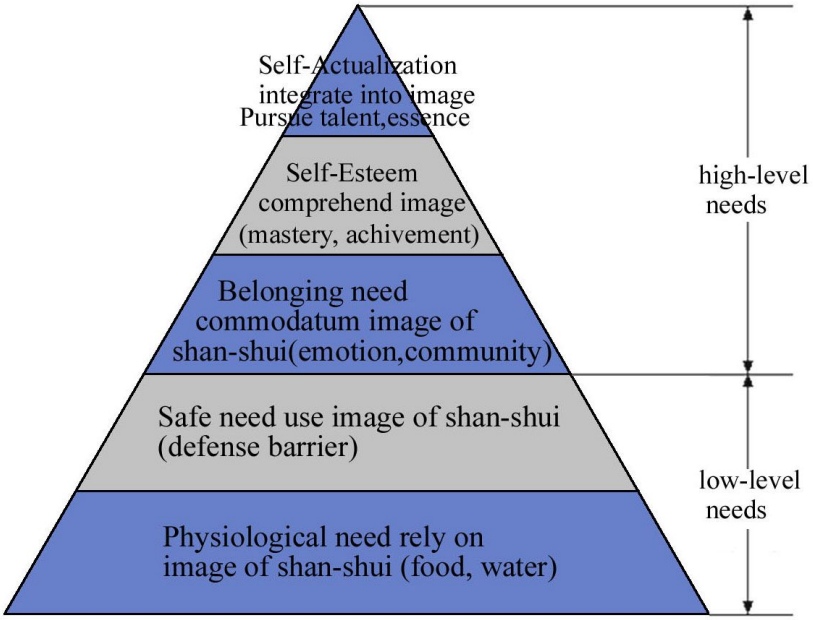


Fig.2-4 The common needs based on the analogy image of shan-shui

Chinese ancient site selection is a basic survival selection. Landscape limits the climate, temperature and season etc., thus when trying to choose matrix, human consider their own life habits and survival instinct. People conduct analogy remolding depending on the rich products of mountain and river, and analogize them as the living support, that is the evolution of embryonic form from nature

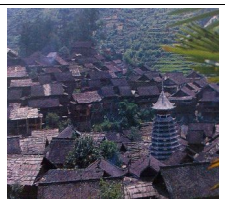
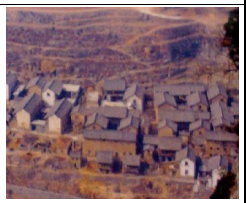
[37] Maslow A H A,*Theory of Human Motivation*, Martino Fine Books, 2013,p.60-72

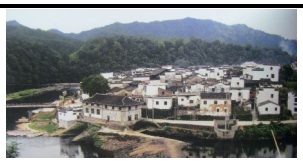
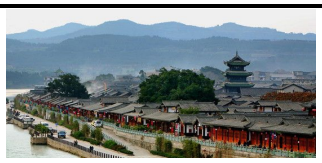
forms to landscape production. Different modes of production make different landscapes in different places form various landscape construction modes, such as the Hani 's terrace, Miao Village on high mountain and traditional Han courtyard at the foot of the mountain. They are all unique production landscape depending on farming life needs.

Take advantage of morphological characteristics which is easy to hold but hard to attack, mountain is compared to barrier and water is compared to war drains. They are both the available physical environment and psychological protection which is easy to hold but hard to attack. People use the landscape form to construct building and form the safeguard of settling down. Traditional society is the peak period of migration and turmoil, large-scale and small-scale migration during the period always exist throughout the dynasties, some are people who were exiled to another place and some are soldier stationary reclamation. “Residence with defense” is one of the main thought of living in a compact community. From Sichuan and Tibet to Qinghai-Tibet Plateau, watchtowers which are scattered distributed among mountains become a plateau form of habitation. Settling down is the purpose of dwelling in other places, comparing the landscape as the defensive barrier, thus living in a compact community is formed.

Low level needs compares landscape as the supply and protecting barrier of the life, so it will affect the constructing style and type of architectural landscape. Survival cognition which is derived from landscape can be perceived from its typical form of the landscape space built based on production mode and defense system. (Tab. 2-2).

Tab.2-2 The analogy shan-shui consciousness of low-level needs

Physioloical need rely on shan-shui for living				
Live type	tillage type on high mountain	tillage type in vally of mountain	tillage type at the foot of mountain	Fish type in the river
Tectonic type	towering fortress	surround enclosed	smooth gather	Linear arranged
Landscape				
Safe need use shan-shui for defensing barrier				
Defense type	defense for living		defense for look-out	denfense for station troops
Tectonic type	depend on mountain and face to river		on the top of the mountain	the river surround

Landscape			

The objective natural environment becomes human's emotional attachment with its fixed forms and endless vitality, and achieves the emotional response, comfort and metaphor analogy during the progress of being recognized and interacting. The needs of belongingness turn the natural property of landscape into metaphor property. Human keep seeking and building places that can express their own willingness, therefor, architectural landscape is constructed. People migrate to other regions to seek similar terrain of mountain and river as their hometown, thus, landscape space with the same form of the original habitat is formed. Mental belongingness will appear. Landscape Imperial Garden which contains the thought of unification of country forever bears the emotional needs of emperor declare publicly. It rises from the basic physiological needs to psychological aesthetic perception level.

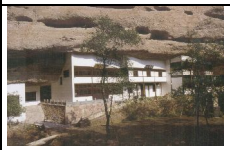
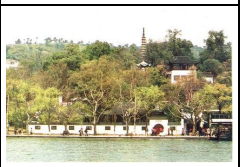
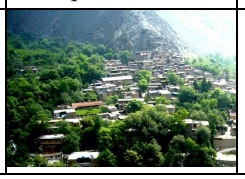
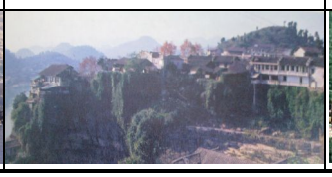
Respect needs are the progress of seeking recognition and understanding from fellow creatures. Respected thoughts expressed in the landscape construction include metaphor of self-respect, respect for others and respected by others. Emperors held grand ceremony of worship of heaven on mountain top to pray for peace and prosperity, and respected by civilians through establishing ritual landscape. Academy landscape is respected by people due to actions and thoughts with modest courtesy of literary masters. Center landscape of gens command of traditional settlements are respected and admired. Respect and supplication needs make people set appearance of mountain and river as perception and feel happiness and pleasure.

Autognosis needs are the cognition and introspection of oneself. Tectonic architectural landscape becomes the carrier of human and landscape resonating with each other. The highest level of landscape needs for human is reconciliation of self-view of universe and the appearance and image of landscape. Architectural landscape becomes a substitute of people's thought, and people totally immersed self-awareness in "symbolic thought" of landscape, thus forms oneness between object and ego.

Through belonging and respecting to self-awareness achievement, high-level needs reach the highest level, and are the spiritual bailment and representation of human emotions. From the aggregation or scattered, appearing or hide features, spiritual pursuit contained in architectural landscape space can be felt. So even if the landscape construction thoughts and landscape types are diverse the subjective

hierarchy of needs and analogy consciousness are of the same category. (Tab. 2-2)

Tab.2-3 The analogy shan-shui consciousness of high-level needs

Belonging need commodatum shan-shui for emotion				
Belonging type	relative status	imperial rule	literati self-cultivation	religious belief
Tectonic type	cluster gathered	concentrate gathered	rigorous form	distinct level
Landscape				
Self-esteem comprehend shan-shui for mastery identification				
Identification type	identification of power	identification of knowledge	identification of living	identification of belief
Tectonic type	Superposition of levels	quiet orderly	natural and peaceful	mirage and metaphorical
Landscape				
Self-actualization integrate into shan-shui for finding essence				
Coziness type	spiritual practice of religion	ease and relax		dominated control
Tectonic type	Simulation the fairyland	natural and freedom		include all landscape quintessence
Landscape				

2.1.3 Architectural teconic analogy consciousness

Experience means knowledge or skills getting from repeated practice, but in philosophy it refers to the phenomenon of objective things and the consciousness of contacting that people acquired in the process of directly contacting with objective things through senses. E. Brunswik thought people perceive information through the past experience. [38] People use potential unconscious instinct to choose landscape image and analogize combining with their own needs, build construction according to the natural attribute and accumulate experience. It becomes the object embody of

[38] Hamond K. *The Psychology of Egon Brunswi*k. Holt Rinehart and Winston, 2010

analogy consciousness of landscape construction. Obtaining material locally and following terrain form the construction tectonic experience. It makes landscape consciousness associates with tectonic analogy, and forms the landscape construction imagery thought which is coordinated with nature.

Obtaining material locally makes different and special architecture, but all as plants grow out of the land, it makes architectural landscape to be a part of nature. Chinese traditional wooden frame construction system gradually evolves into wood construction experience, which indicates vitality and recurrent growth. The wooden architecture of central plain imperial palaces is excellent and delicate, and forms a grand landscape, while the wooden landscape in the southwest mountain is rusticity, see Fig. a-b. Due to the unique material of each region, other types of construction take shape, such as buildings constructed with sedimentary rock in the northwest region of Yunnan. Mountain areas build construction with clay and felt, etc. see Fig. c-e. Through selecting building material to analogize local cultural characteristics, it is the accumulation of generation construction experiences. (Fig 2-5)

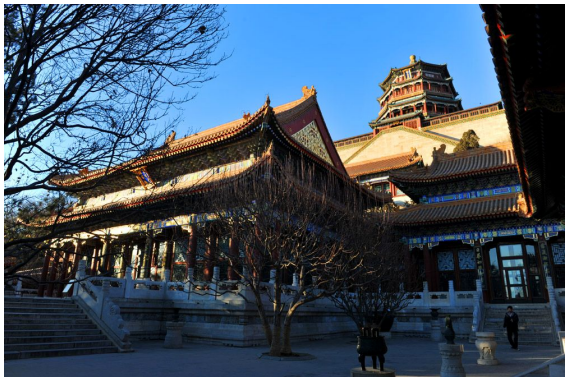


Fig.a Timber structure landscape from the Central Plain

Fig.b Timber structure landscape from the Southwest

Fig.c Stone settlement landscape

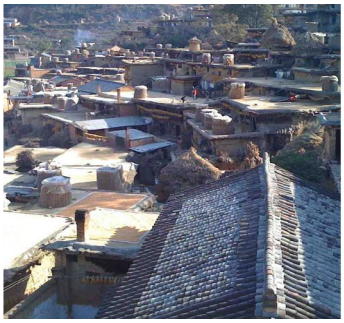


Fig.d Earthen settlement landscape

Fig.e Stone and wood mixed temple landscpae

Fig.2-5 The teconic landscape experience of incorporating local materials

Both mountain and river are natural terrain. According to the experience of the landscape situation accumulated structure, people reduce the mining of the

earthwork and utilize different terrain to construct buildings with the ecological wisdom and experience, thus the landscape style that features natural appearance is formed.

Take advantage of preciously existing building technique combined with aesthetic, people integrate visual inspection or geomantic omen of mountain and river into investigation results of natural environment to build harmony of man with nature,see Fig.a-c.Buddhist temples take cavern of the cliff in mountains as construction space while settlements in valley take cluster and gather space to meet the concave terrain, thus hidden and reveal landscape spaced is formed this way, see Fig.d-e. Buildings which are built according to linear order along the ridgeof mountain forms wide and narrow landscape space, see Fig.g. (Fig. 2-6)

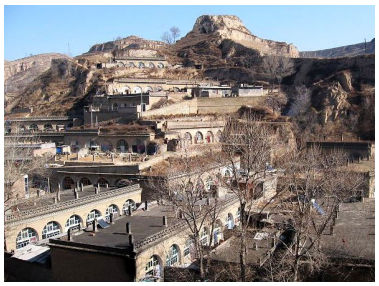


Fig.a Cliff settlement landscape

Fig.b Settlement landscape adapting river

Fig.c Settlement landscape adapting valley

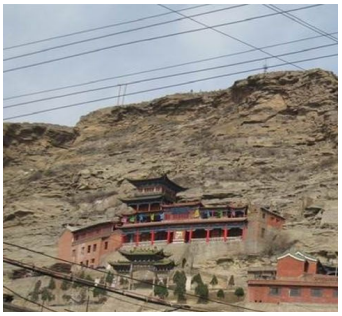


Fig.d Buddism temple landscape on cliff

Fig.e Taoist temple on the mountain top

Fig.f Great wall surrounded piedmont of mountains

Fig.2-6 The teconic landscape experience follows the terrain of mountains and river

2.2 Transition of landscape construction consciousness

When the analogy cognition of "collective unconsciousness" produces tectonic thought and forms the landscape analogy consciousness, the homologous tectonic consciousness is related to the phenomena of social groups like regime with distinct grades, advanced degree of culture and the unique folk culture and so on. The structure constructions gradually develop and form landscape consciousness. They also have the landscape consciousness which is produced based on design thought of garden. This kind of continuous type and design type of multivariate

development become landscape construction type. According to the diachronic and synchronic transformation, subjective depth profile analysis of appearance produced in the act of constructing forms the transition of consciousness.

2.2.1 Types of consciousness

Alexander distinguished the original and folk construction process from design activities of professional architects. The former is named conscious design, while the latter is unconscious design. [39] Analogy consciousness produces metaphor in the process of landscape construction. It includes continuous type consciousness purely comes from survival rule and design type consciousness derives from ingenious design. Therefore, the landscape construction conforms to the definition of cultural landscape, and is the landscape heritage that is formed with traditional landscape culture and nature.

During traditional society, Chinese classical garden was from development to maturity, which is an important part of traditional art forms. The design method is applied to natural landscape construction, and formed the consciousness of landscape with design type. Suburban royal gardens of emperors gathered landscape of north and south together. The relationship between landscape and architecture is precise, including both majestic etiquette landscape and illusory fairyland. (Fig. 2-6)In the form expression and space construction, cultural traits are expressed through different design methods. This kind of landscape are always built in excellent place to form a unique landscape image.

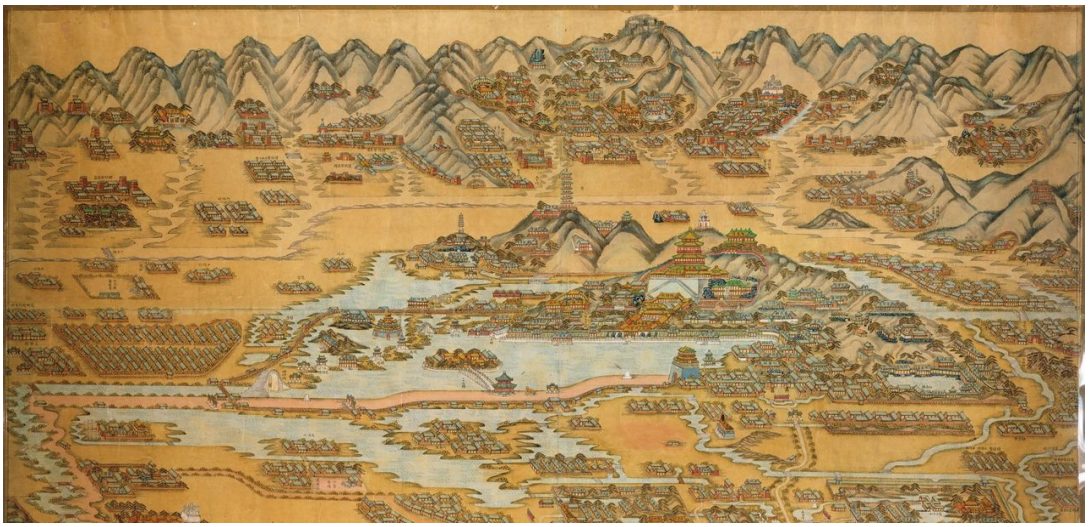


Fig.2-6 The royal awareness of landscape designed and created intentionally by man(Shanglinyuan Han Danysty)

[39] Christopher A, *Notes On The Synthesis of Form*, Harvard University Press, 1964, p.126

Through generational multiplying and inheriting of culture of gens, settlements formed space conformed to the natural form. It is the landscape type based on sustainable construction consciousness. Ancient towns were always built along river in south Yangtze River. Different modes of production form difference between buildings and construction of river systems. Cave dwellings take advantage of different heights of cliff digging to build settlement and form the stack architectural landscape. Hani's terrace is the cultivation ways of seeking survival at first in rough terrain, and stack the terrace with settlements following the terrain to form landscape. (Fig. 2-7,2-8) Continuing consciousness is the specific landscape wisdom that group out of spontaneous residence, based on the needs of life and take advantage of survival skill to structure architecture coordinating the nature.

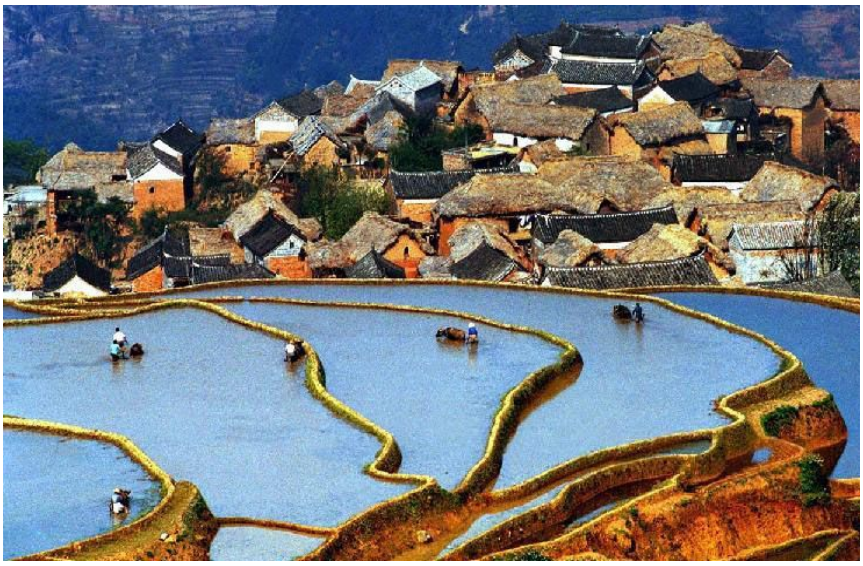


Fig.2-7 The continiuing landscape consciousness of Honghe Hani Rice Terraces(700 *A.D.*)

Fig.2-8 The continiuing landscape consciousness of Nuodeng Tai-Chi village(1138 *A.D.*)

2.2.2 Space-time transition

Under the action of landscape culture, architectural landscape carries the traditional environmental and philosophical concept. It has got rid of imitation of nature of classical garden, and expanded the territory of the landscape. From gardening to tectonic landscape, they have the same cultural arteries, show the landscape characteristics of dynasties, and form the transition of diachronic consciousness. Each region in China has its own unique culture and custom, which forms the diverse landscape culture area, and produces transition of synchronic consciousness.

2.2.2.1 **Diachronic development**

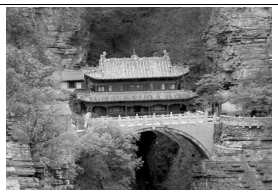
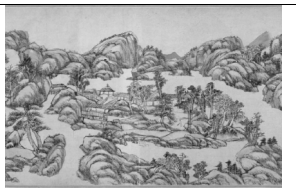
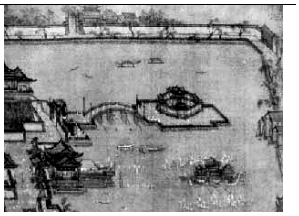
Changing with time, timeliness consciousness is a kind of vertical change characteristics. Traditional society started from Qin Dynasty unified six countries to Qing Dynasty ended, after replacement and development of dynasties, traditional culture constantly enrich, update and transform, and changing forms of landscape types took shape. [40] In different dynasties, all kinds of culture changing due to factors such as social, cultural, natural, and so on, thus made the inheritance and transformation of connotation and behavior of tectonic landscape thought in past dynasties. (Tab. 2-4)

Most palatial gardens of traditional society in record were built for emperors to hunt and play. The First Emperor of Qin Dynasty praised highly the sendoh, and Emperor Wu of Han (the seventh emperor of the Han Dynasty in China) longed for the fairyland. They leaded Weihe River for making pools and built Penglai and Yingzhou Mountains. Tectonic pattern of “one pond surrounded by three hills” formed and diffused down to generations. Landscape space of landscape model of Qin and Han Dynasties for simulating wonderland came into being. During Wei and Jin period, scholars and officials built gardens and poetized and painted in landscape buildings, which made the combination of scene and poetry and painting. At the same time, religious landscape came into being, which is the place for pilgrimage and spiritual practice. Due to canal digged in Sui Dynasty, landscape structure of garden in the garden formed the palatial garden of themes and serpentine and poetic regions of rivers and lakes in the middle and lower reaches of the Yangtze River. Prosperity of social economy and culture in Tang Dynasty presented grand landscape consciousness. Imperial palace gardens are particular about construction techniques and magnificence palace. Song Dynasty formed exquisite landscape in limited natural environment. Ming and Qing Dynasties are a period of great prosperity of architectural landscape construction. The technique of

[40] Chen Bochong, As a rational form of achitecture[J]. Achitecture, 1995,vol 01,p. 62

making scene by landscape is getting more sophisticated and imperial palace gardens are becoming more concentrated. Landscape settlements are constructed with gens cultural characteristics. Taoist temples are built surround the mountain, which makes the religious holy landscape come into being.

Tab.2-4 The change of landscape awareness in different dynasty

Dynasty	Teconic landscape awareness	Landscpae form	Example
Qin and Han (221*B.C.*-220 *A.D.*)	large area of river and mountain for pursuit fairyland	The royal landscape of three mountains in water	
Weijin (220 *A.D.*-581 *A.D.*)	metaphysics and hermit culture for pursuit mysterious landscape	The Buddism tample hidden in mountain and river	
Sui (581 *A.D.*-618 *A.D.*)	dredge river channel form settlement along the river and the religious landscape prevail	Royal suspended temple and settlement landscape along Changjiang in the South	
Tang (618 *A.D.*-907 *A.D.*)	grand and extravagant landscape in mountain and river.	grand royal landscape and literati garden	
Song (960 *A.D.*-1279 *A.D.*)	exquisite and ingenious landscape in the palace	Exquisite royal landscape imitates classical garden	
Yuan、Ming and Qing (1279 *A.D.*-1911 *A.D.*)	single gardens gathered make grand landscape	group forms of royal and religious landscape settlement landscape remained now	

2.2.2.2 **Spatial development**

Traditional culture kept inheriting in the landscape construction during past dynasties, and produced a variety of types and forms. It is the formative foundation of architectural landscape of particular periods.

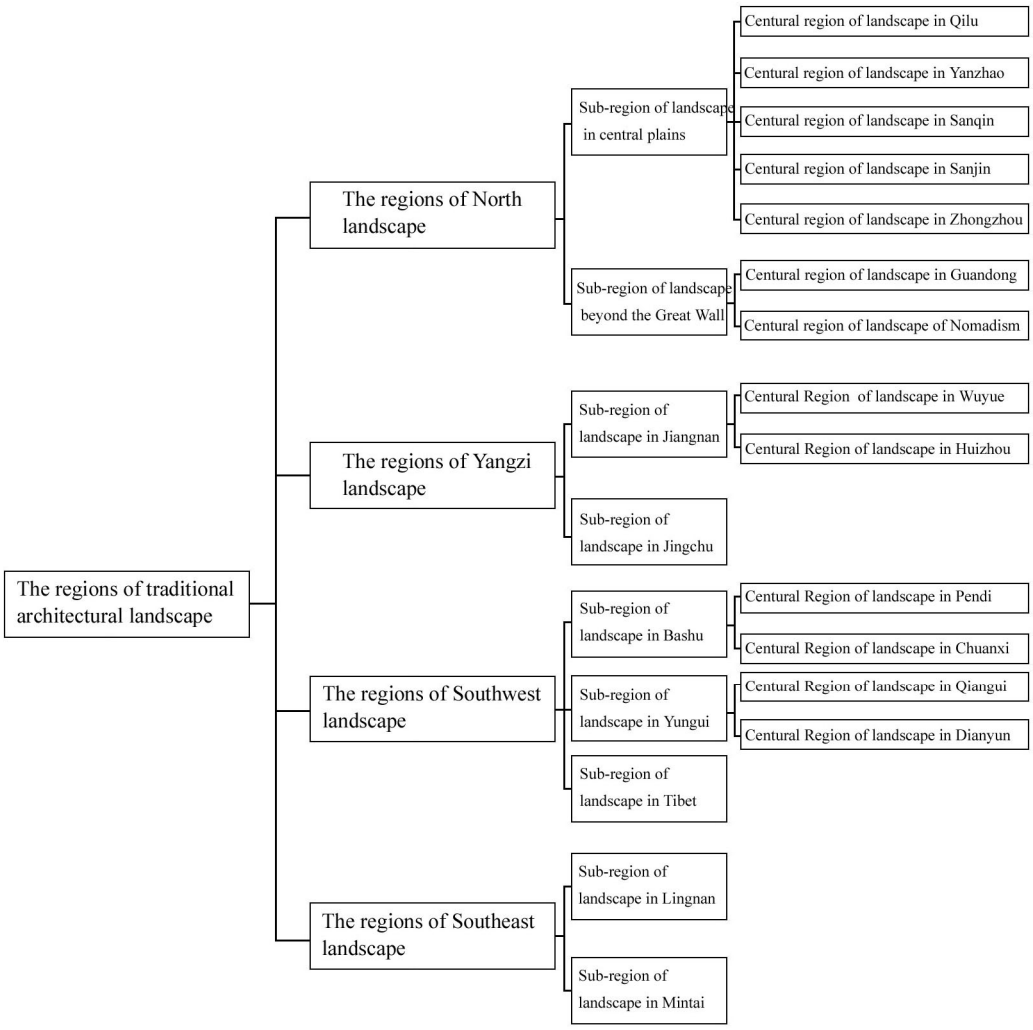


Fig.2-9 The cultural regions of structure of traditional architectural landscape

Transition of synchronic of landscape consciousness makes the systemic associations of factors in space, and presents the organic way and order. It is the conceptual combination with certain characterization, which formed the landscape culture area [41]. It contains central cultural regions, cultural sub-regions, etc., and has a unique regional cultural thought and consciousness structure. (Fig.2-9) Cognition and transformation of environment and accumulation and inheritance of culture are the main activities of traditional architectural landscape formation. "For any element in the form of culture, as long as in the relationship framework of the element and other elements, in fact, also the relationship framework of other

[41] Jiang Baode. Chinese regional culture（volume 1）. Shandong art press, 1997, p.365

elements and the entirety, the meaning of it can be fully seen." [42] Regional differences of space make material and immaterial factors combined in unique structure of consciousness formed in landscape architectural construction. Material factors include architectural function and form, characteristics of terrain, and difference of natural environment. It is the basis of landscape material space diversity. Immaterial space is the cultural root of tectonic thought. Material space usually reflects the immaterial elements, aesthetic tendency, humanistic conception, religious belief and so on. Through the analysis of landscape culture area structure and characteristics of constitutive elements of landscape to analize characteristics of landscape culture and make material and immaterial factors combined as a certain logical relationship. Under the influence of cultural conflict and integration, consciousness change of space will come into being.

2.2.3 Comprehension levels

Traditional Chinese culture has always stressed people to know their sincere essence without the natural influence. Landscape and the universe root of the ancients' cognition are the same, but it forms different comprehension level between human and nature due to different emotion, supplication and social background.When Chan master Qingyuan Weixin reviewed his practicing experience of Chan and Taoism, he said: thirty years ago when I did not practice meditation, I saw mountain was mountain and river was the river; later in the process of meditation, I saw the mountain was not real mountain and river was not water; when I made a clean break with the essence, I saw mountain was only the mountain, water was only the water. [43] It is the three stages of tectonic landscape perceiving between human and landscape. In the first stage, landscape with its unique color, shape, weather and other natural phenomena is the embodiment of the universe in the eyes of the world. People perceive, select, appreciate and construct landscape according to their own pleasure. In the second stage, people's cognition of themselves derived from natural enlightenment, and landscape is the symbol of self. In the last stage, people restore the nature landscape, construct buildings to coordinate with nature which makes consciousness and environment fully mixed.

People always observe outside world from their own angle of view. It is the instinct of aesthetic consciousness and is the first impression of landscape. It becomes the image core of many landscape construction representations. [44]

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[42] Liu Minzhong. *The theory of cultural structure. Academic Exchange*, 1999, vol 01,p. 138

[43] Pu Ji.*Wudenghuiyuan*. Hainan Press, 2011,p.956

[44] Ding Xianlai. *The theory of aesthetic contemplation*. Beijing: China Social Science Press, 2008, p.56

When landscape matches people's inner cognitive image, it is transformed into the conscious landscape. Landscape based on the geomantic omen and built according to the established rules and experience to reflect priori consciousness through morphological characteristics. Architectural landscape with its variety of shapes to make people produce infinite association, to get enlightenment, to reflect oneself through the metaphor of landscape, and to form tectonic consciousness according to subject culture thought. Emperors, nobilities, scholar-bureaucrats, literati and civilians can get feedback of moral identity from landscape. On the surface of it, people choose the landscape, but actually it is the influence produced from landscape to people in this identity. As Mr. Qian Mu said, “Humanity is the base of morality. Humanity comes from nature and the beauty of nature is reacted by heart and performed by art.” [45] Consciousness communication is generated in landscape by people, which stresses people will fully integrated their own consciousness into the landscape environment to return to the original natural property. In religious architectural landscape, monks and believers cultivate their moral character here, while literati travel here. People are looking for a sincere-self, introspection and practice meditation. Chinese philosopher Lu Xiangshan in Song Dynasty once said, “Cosmos is human thought, human thought is cosmos”. Landscape is the existence of cosmos in traditional culture, and architectural landscape image is the representation of traditional thought.

2.3 Diffusion of landscape construction consciousness

Through the identification and inheritance, members in traditional society shared landscape construction consciousness in different degrees, and made tectonic image with homologous cultural basis interweaved changes. "Cultural diffusion refers to the cultural phenomenon diffused and transferred from the source to other regions by people’s consciousness of imitation, transformation and migration" [46] As a result, when the landscape consciousness that can reflect the cultural characteristics has been widely accepted by the acceptors, tectonic landscape image will be formed through person-to-person transmission and the diffusion of landscape consciousness of people.

2.3.1 Identification of acceptor

Traditional architectural landscape construction consciousness is widely recognized and inherited. Through the development of different dynasties and

[45] Qian Mu. *An Anthology of Analects*, Jiuzhou Press, 2011,p.67

[46] Duan Baolin, Jiang Rong. China landscape culture. Beijing University Press, 1996:227-229

transition of regions, stable system of acceptors is formed, namely the constructor of the architectural landscape, including emperors and nobilities who enjoy the landscape scenery, scholar-bureaucrats and literati who live in seclusion in landscape, settlements of civilians in landscape and monastic practice Buddhism or Taoism in landscape, and unification of central and regional cultures.

The central culture of Confucianism, Buddhism and Taoism has the stable system of acceptors, which makes the landscape structure of consciousness widely accepted under the influence of it. Subrogation of dynasty repeatedly emerged during the two thousand years' traditional society, but the Confucianism's dominant position was never changed. [47] Confucius said that: "the wise enjoys the water; the benevolent enjoys the mountain." It makes construction consciousness of landscape analogy of moral virtues widely recognized by the acceptors of Confucianism. Taoism culture seeks the natural laws from mountains and rivers, later it forms landscape consciousness of seeking immortality and practicing in mountains and rivers. Emperors simulated pavilion of fairyland with architectural landscape; construction of Taoist temple prayed for eclosion about an immortal, and construction consciousness of landscape analogizing fairyland is widely recognized. Since the Eastern Han Dynasty, Buddhism was introduced into China with widespread recognition. Mahayana Buddhism temples were built in everywhere, and became model due to the fusion of religion and politics highly praised by emperors. Construction consciousness of landscape analogizing Sukhavati was widely recognized. Traditional architectural landscape has its unique culture area. It produced culture acceptors in regions with diversified development, inherited the unique gens culture, and formed a variety of settlement landscape. It makes construction consciousness of landscape analogize hypothetical settlement widely recognized.

2.3.2 Diffusion of consciousness

Due to the acceptors' migration and spread of culture, diffusion of landscape consciousness is generated, including prevalent diffusion of landscape consciousness of style which is widely identified, different regional diffusion of landscape consciousness of pattern with the same type, and diffusion of specific landscape consciousness of structure inheriting in generations. Different landscape image thoughts but with same origin come into being.

Style is a kind of consciousness factor of artistic image which can be diffused, and is being recognized and highly praised by the majority of the acceptors, thus makes each region build similar landscape types. Hangzhou, Yangzhou and Huizhou

[47] Zeng Changqiu, *Chinese traditional culture*, Zhongnan University Press, 2004,p.61

all construct the west lake scenery, which is the epidemic diffusion of cultural landscape along river landscape style. Residence of literati and memorial temples etc. are the epidemic diffusion of landscape style consciousness type formed by the recluse culture. (Fig. 2-10)

Fig.a Landscape picture of Fuchun settlemant (painter Huang Gongwang in Yuan-dynasty)

Fig.b Landscape picture of literati settlement (painter Wen Zhengming in Ming-dynasty)

Fig.c Landscape picture of three visits to the cottage (painter Dai Jin in Ming-dynasty)

Fig.2-10 The prevalent spread of landscape cultural awareness

Consciousness of landscape pattern with the same type is formed after the space constructed by architecture and landscape is widely identified. Consciousness diffused as people's migration beyond geographical and cultural restrictions, and produced similar pattern of landscape types, such as landscape space of traditional courtyard and surrounding architectural courtyard combined with terrain is presented in cultural landscape consciousness in various regions, gens and religions. Buildings in the royal palatial garden are landscape space of traditional courtyard, as shown in Fig. a. Loess digged residential space of plateau in Shanxi keeps the traditional courtyard structure following terrain, as shown in Fig.b. Tibetan religious architectural landscape brings spiritual blessing for people through palaces surrounding Buddism pagoda, as shown in Fig. c. (Fig. 2-11)

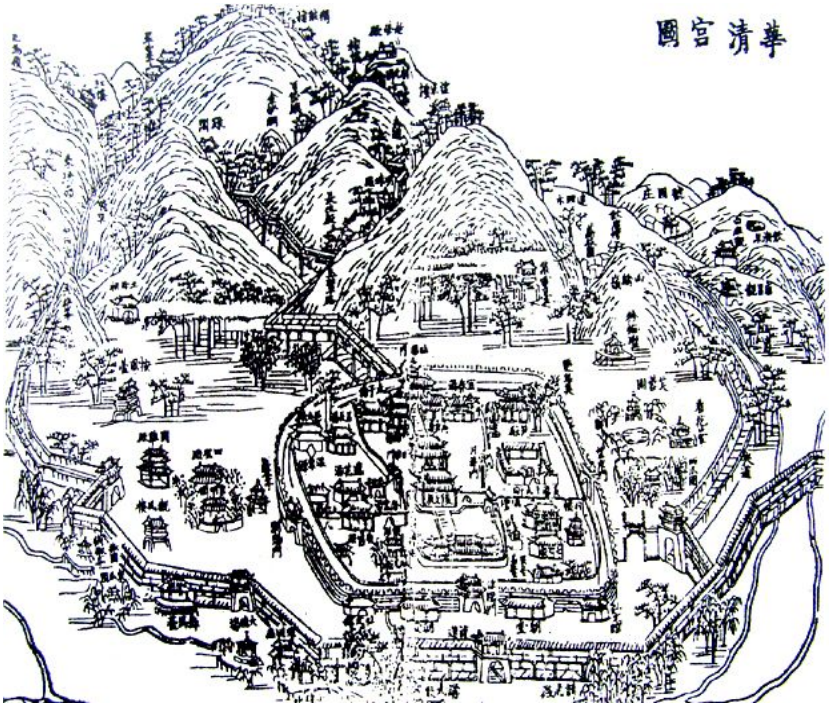

Fig.a The courtyard pattern of Sanqin royal landscape awareness[48]

Fig.b The courtyard pattern of cliff Settlement landscape awareness[49]

Fig.c The courtyard pattern of tample landscape awareness[50]

Fig.2-11 The immigrating spread of courtyard pattern landscape awareness

Structure is the landscape consciousness produced in specific culture, and diffuses into a same-level culture accompany with continuous tribal culture. Momentum of being puffed up with pride and regent of heaven exist in the landscape creation of imperial culture of traditional social culture in past dynasties. Imperial palaces built in landscape gathered essence from landscape image, and formed landscape consciousness of structure which has been inherited hundreds of years.

Landscape consciousness model of “one pond surrounded by three hills” inherited from Qin and Han Dynasties is presented in imperial palaces of all previous dynasties; The Three Hills and Five Gardens,together with Chengde Mountain Resort in of Qing Dynasty are the integrated embodiment of landscape consciousness of structure of grand royal palatial garden. (Fig. 2-12)Combined zonal river with construction, landscape consciousness of structure of Yangtze River delta formed in generations. Landscape consciousness of structure of Miao Stockaded Village in mountains formed accompanying with mountain stack-up becomes record and representation of traditional culture.

Fig.a The royal etiquette awareness in Chengde Mountain Resort

Fig.b The leisure architectural landscape awareness in the Lake region

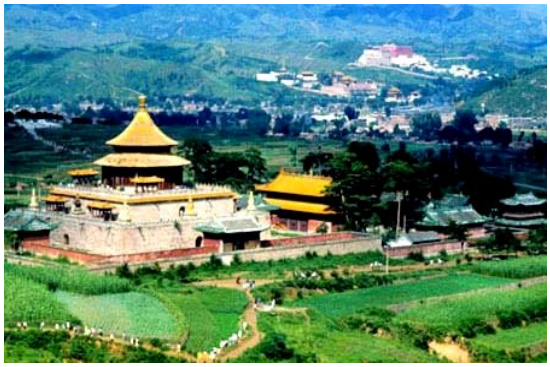

Fig.c The royal architectural landscape awareness in the mount region

Fig.2-12 The structure awareness of royal landscape [51]

2.3.3 Interweaving of consciousness

With the diffusion of consciousness, cultural fusion makes tectonic consciousness interweaved. Development level of any culture unit depends largely on the possibility of contacting with different culture interflow and the amount of new information it gets. [52] Architectural landscape consciousness interweaving means cultural unit unites, which make comprehensive landscape information and produce the landscape symbolic thought.

As the isogeny cultural updating, sustained accumulation of landscape consciousness interweaves. Hakkas is the new ethnicity formed by the most distinguished Han ethnicity who migrated from Central Plains to the South of the Yangtze River due to war, famine, etc. [53] Mountain living landscape with neat pattern of Guangdong, Fujian, Taiwan and other regions embodies the interweaving of landscape, lineage, home village, gens and other culture consciousness in Fig.a. Hakkas' earthen buildings in Meizhou combines landscape matrix to form the surround and semi-open settlement landscape architecture in Fig.b. Fujian Tulou landscape is built in the southwest of Fujian province. Fig.c-d It is the national junction of Wolao and Hakkas.

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[48] Wang Juyuan, *The history of Chinese classical garden*, China Building Industry Press, 2005,p.1019

[49] Lu Qi, *Chinese settlements*, China Building Industry Press, 2005

[50] Wang Dajun,Yang Jiaming,*Tample in Tibet*,Sichuan National Press, 2006

[51] Fu Qingyuan, *Chengde Mountain Resort*, China Building Industry Press, 2015

[52] Donald D H. *Visual Intelligence: How We Create What We See.W. W. Norton & Company*, New Ed edition, 2000

[53]Lu Yuanding. *Human·Character· Building in Lingnan*, China Building Industry Press, 2005,p.128

The surrounding juxtaposition building space reflects the fusion of Han culture and local ethnic culture. The combination of settlements culture and landscape environment caused by migration of gens produced interweaved tectonic consciousness. (Fig. 2-13)

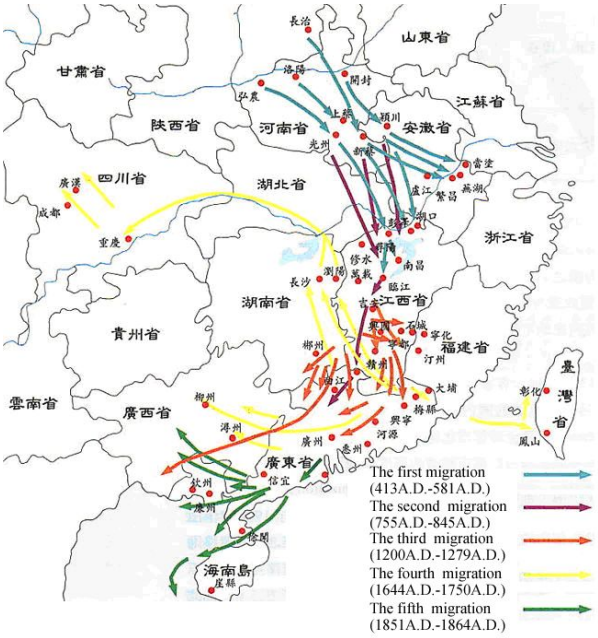


Fig.a The migration route of Hakkas

Fig.bThe settlement of Hakkas in Meizhou (1854 *A.D.*)

Fig.cThe settlement of Hakkas in Mintai (1419 *A.D.*)

Fig.d The settlement of Hakkas in Jixi (1419A.D.)

Fig.2-13 The renewal of architectural landscape of Hakkas immigrating[54]

Along with a variety of cultural fusion, landscape consciousness also

interweaves, which is reflected in the landscape construction. For example, the fusion of culture of etiquette and religion makes palatial garden and temple landscape consciousness interweaved. Gaoyang emperor of the Northern Qi Dynasty built temporary palace on Phoenix Mountain, taking advantage of the dangerous terrain to metaphor palace in fairyland and became emperor carefree landscape. The place used to sacrifice Nu Wa, one of a goddess in Chinese mythology, and trends of winding up is metaphor of Apsaras. (Fig. 2-14) As the spread of central plains culture, Chu culture and western culture, multivariate culture mixed together, forming concomitant landscape consciousness and coexisted religious architectural landscape of Buddhism, Taoism, Manicheism, Hinduism etc. in Lingnan area.

Fig.a The form of Nuwa myth

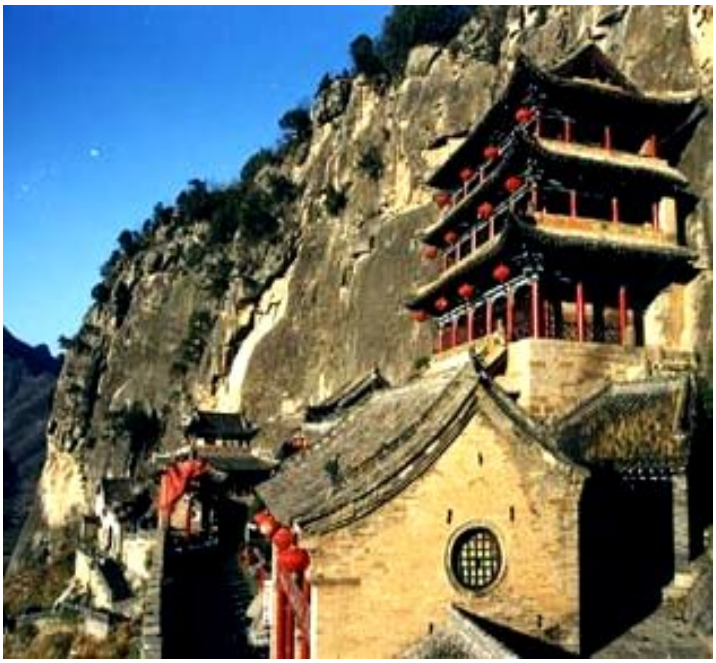


Fig.b The pattern of tample for sacrifice Nuwa

Fig.2-14 The religious landscape mix with belief and imperial consciousness (550 *A.D.*) [55]

[54] Qiu Hengxing, *The* Hakkas *and culture*, China International Broadcasting Press, 2011,p.135-176

[55] Bao Jiang, Chorography of Nu Wa Palace, *Chinese settlements*, Social Science Literature Press, 2013

Chapter 3 Mental Representation of Traditional Architectural Landscape Image

Mental representation is one of the components of perceived image. It is not the entity which can be seen directly, but the cognition of landscape type which is produced based on archetype. Tectonic image thought forms consensual landscape archetype and reflects specific mental representation of landscape. It translates consciousness into landscape concept with characteristics and connotation. Affected by communication and guide of traditional culture, mental representation forms typical archetype image. Cognition of landscape culture and pattern in characterization of archetype is people's spiritual pursuit for ideal landscape space. Due to communion of culture and object characteristics of archetype image, through special materialization of landscape mental representation, spatial morphology of tectonic thought formed. It is the theoretical foundation and cultural source of forming landscape space of objective image and implication.

3.1 Consensus archetype

Archetype is the psychological content and medium of "collective unconsciousness". It does not adhere to material object and result. It is the consciousness interpreted by the psychology based on the principle of spirits of autonomy. Archetype of architectural landscape image is a kind of thought, which derives from the "collective unconsciousness" and landscape "symbolic thought". Identified patterning and template of tectonic image produced by delineation and immaterial connotation become the landscape materialized form of common consent. In the appearance of landscape image associated with mountains and rivers, such as longevity, becoming immortals and hermit ideas, no matter what kind of landscape, they always follow consciousness archetype, which is the most primitive totem archetype of the human landscape cognition and geomantic and treasured site archetype. This forms landscape image construction regulation.

3.1.1 Devotional totem

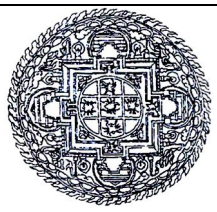
Jung Carl Gustav believes archetype is the origin of things, which has both western and eastern identified synchronicity and holistic concept, and forms interlinked Plato's "rational mode" and Chinese Taoism. [56]Totem is a kind of

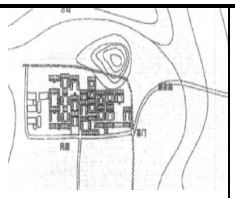
[56] Archive for Research in Archetypal Symbolism. *The Book of Symbols: Reflections On Archetypal Images*. Taschen, 2010,p.102

cultural phenomenon with signal and symbol to represent specific content such as relatives of primitive groups, ancestors, and the protection of God, etc. and is the earliest archetype identified by humans. [57] Each gens has its own unique devotional totem, forming the image of pursuing good fortune and avoiding disaster. According to analogy of animal, supernatural being, spirit and symbol combined with landscape consciousness. Devotional culture combining with imagery thinking will be applied in the construction of landscape architecture.

China has vast regions and many ethnicities. According to the cultural roots, each ethnic group has its own unique devotional totem, such as animals which are seen as the symbol of the blessing. Cattle and tortoise are the symbol of longevity and become totem of some settlements. The Xiaodianhe village combined with landscape architectural layout forms totem of turtles into the water. Architectural complex looks like on the cover of the turtle, which means metaphor of auspicious environment. Phoenix and dragon are commonly recognized as auspicious totem by traditional culture. Gushi County regards phoenix as their devotional totem. Architecture layout on the terrain of mountain and river like a phoenix forms the landscape concept. Tibetan Buddhism lays out the temple landscape with Mandala totem. Astronomical phenomena is also the devotional totem. Palatial gardens in Qin dynasty took totem of astronomical appearance for reference. The traditional settlement Tujia ethnic minority reflects the beliefs about astronomical phenomena thought the Tai Chi village landscape space layout. (Tab.3-1)

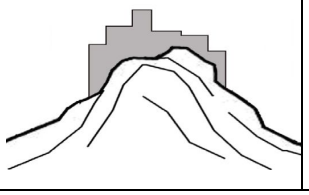
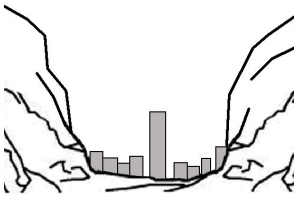
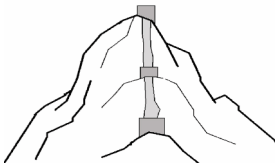
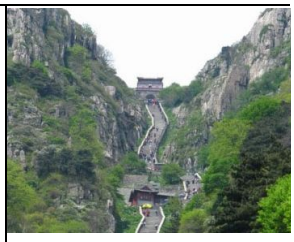
Tab.3-1 Landscape archetype of graphic totem

Type of appearence	Animal	Supernatural being	Religious pattern	Celestial phenomena
Example	cow、tortoise	dragon，phoenix	mandara	Tai chi, gossip
Graphic				
Analogy thought	The combination of architecture and shan-shui simulate the graphic totem which limits the landscape space and reflects the culture			

Landscape form				
	the settlement of tortoise form	the settlement of phoenix form[53]	the tample in Tibet	the settlement of tai-chi form

Totem has actual type and immaterial spirit. Architecture on the top of mountain in Tibet is the building defense for gens, forming landscape space for lookout. After developing for generations, it gradually becomes the spiritual symbol of slaveholder, and dominates in the settlement. Dong village in Zhaoxing becomes the gens cultural symbol with drum towers represented benevolence, righteousness, courtesy, wisdom, and trust. It is the spiritual totem of septal faith separated in five nature areas. Imperial gardens and mausoleum with the landscape order of axis has become the spiritual totem of hierarchy, which strictly presented formal and strict etiquette culture. (Tab. 3-2）

Tab.3-2 Landscape archetype of metaphor totem

Type of appearence	Spirit of defense	Spirit of gens	Spirit of etiquette
Example	the fortress on the top	the concentrated and gathered settlement	the sacrifice sequence
Graphic			
Analogy thought	The combination of architecture and shan-shui simulate the graphic totem which forms the landscape order and atmosphere		
Landscape form			
	the fortress for defense in Tibet	the Dong settlement landscape	the Royal road of Mount Tai

[57] Hall, *Outline of Carl Jung's psychology*, Huanghe Press, 1997, p.91

3.1.2 Geomantic and treasured site

According to the perceptual and rational cognition of human and nature interweaved and based on this, traditional culture formed the geomantic omen. Based on the ancient organic natural organism, astronomy, climate, earth, hydrology, ecological environment, etc. were used in landscape practice behaviors of selecting landscape location. The archetype of Geomantic and Treasured Site not only has the pursuit of form, but also the cultural influence. To observe the scenery of nature and people as a whole, it becomes a model of location for landscaping.

"Find the Dragon" and "choose the type of mountain" directly confirm the best terrain of mountain and river. Mountain with the pattern of dragon should have the same changeful trend, fluctuation and turn as dragon. Channel across the mountains, and from the perspective of perpendicular surround mountains. Choose the type of mountain need the shape conform to aspect astrology. Selecting direction based on the location and associated with the traditional culture of Yin-Yang and the five elements. It pursues good fortune and avoids the disaster and chooses the best direction. At last the best location for construction of the architectural landscape was pointed out with the mountain surrounded, river encircled and wide visual field. [58] According to the geomantic images accumulated by experiences of landscape selection of generations to present the structural configuration of landscape of mountain and river. (Fig. 3-1~3-2)

Fig.3-1 The good cave concept of Feng Shui[58]

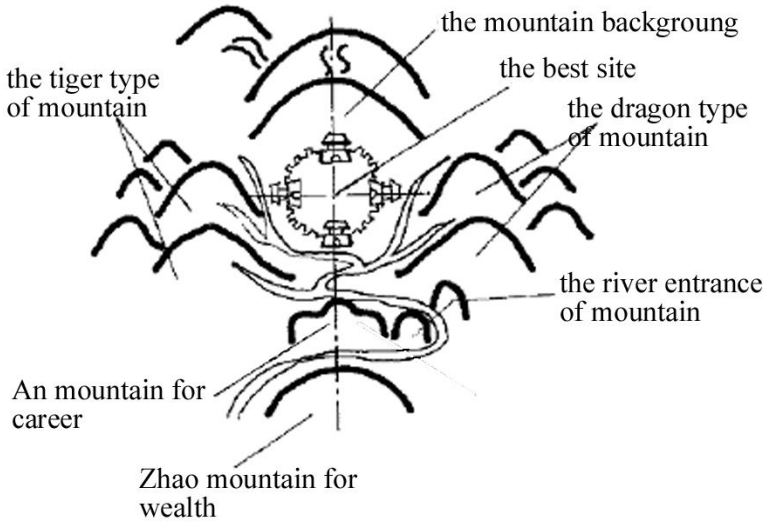


Fig.3-2 The significance of Feng Shui landform

[58]Yu Kongjian. The origin of ideal landscape: the cultural significance of Fengshui. Beijing: The Commercial Press, 1998,p.20-32

The ancient Langzhong, which is constructed according to the dragon-like river combined with mountain valley construction landscape layout symbol the supernatural being with the four directions. (Fig. 3-3) “Cuo qin” is the main construction of Tibet temples, based on auspice and Fengshui site selection to highlight cultural symbol admired position. “Representation of archetype is actually the repeated phenomenon of human spirit.” [59] Therefore, Fengshui which combined technology thought and nature consciousness makes organic combination of culture meaning and form, and becomes the consensus pattern and symbol of spirit of site selection and layout.

Fig.a The feng shui landforms

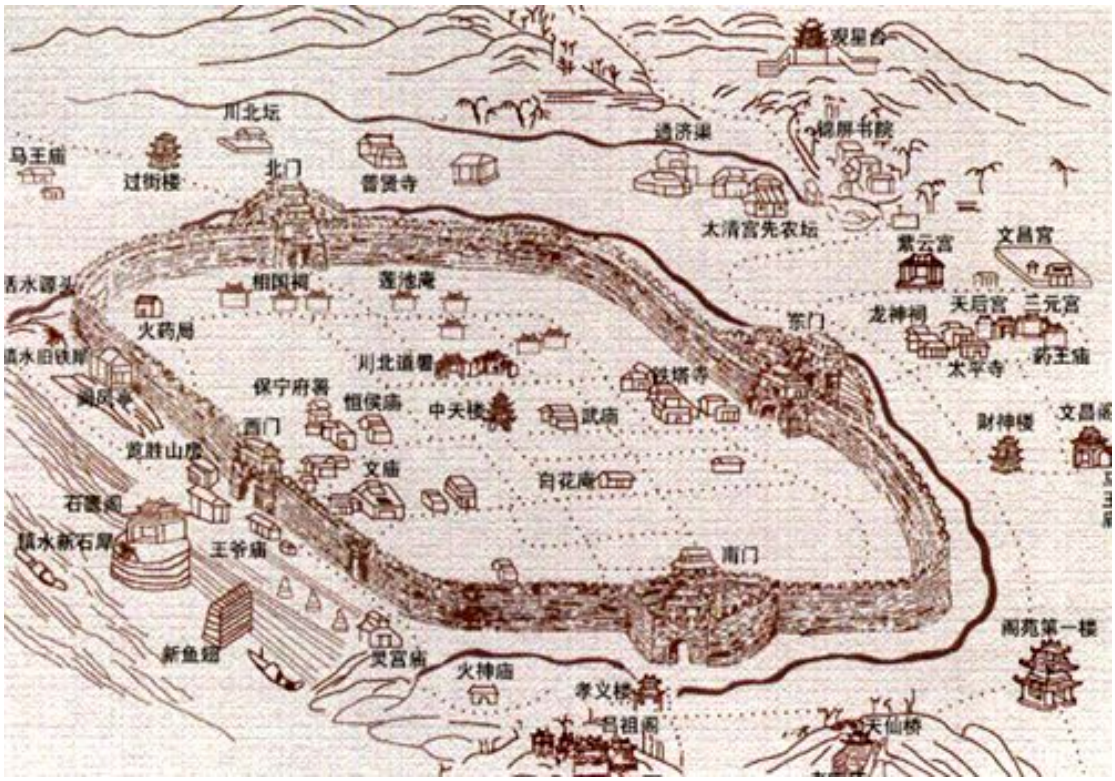


Fig.b The teconic landscape awareness [60]

Fig.c TheTengwang Tample landscape awareness

Fig.d The Mount Jinping landscape awareness
Fig.3-3 The feng landscape awareness of Langzhong ancient city (316 *B.C.*)

3.2 Cultural source of mental representation partition

According to the different characteristics of traditional culture, archetype of landscape represents multiple mental representations. "The original image or archetype is a kind of mirage, human image or behavior presents through constantly recurring and creating. People's psychological cognition is expressed through mood, emotion or fate in recurring historical events or illusion in the same way, and always occurs in the record of traditional culture cognition and scenic." [61] Therefore, no fault type inheritance of traditional culture has formed the humanistic environment and origin, and based on the culture type partition become the typical archetypal image.

3.2.1 Multidimensional aesthetic standard

Limited competence of cognition of traditional social people made apotheosis of mountain and river. Tibetan temples present devotional pattern though cluster space, and group building of temples combined with landform of terrain to

[59] C G Jung. *Psychological Types*. Important Books, 2013,p.153
[60] Chorography of Langzhong
[61] C G Jung, Meredith S, *The Earth Has a Soul: C. G. Jung on Nature, Technology & Modern Life*. North Atlantic Books, 2002, p.100

analogize immaterial totem. Temple architecture means to suppress ominous symbol generated due to terrain. [62] (Fig. 3-4) In Song Dynasty, Taoists built Penglai Pavilion on the top of the Mount Danya, because fog and clouds wreathe like fairyland, and the spread of legend of immortal even more add the mysterious and imaginary feeling. They are the influence made by all culture of blessing consciousness.

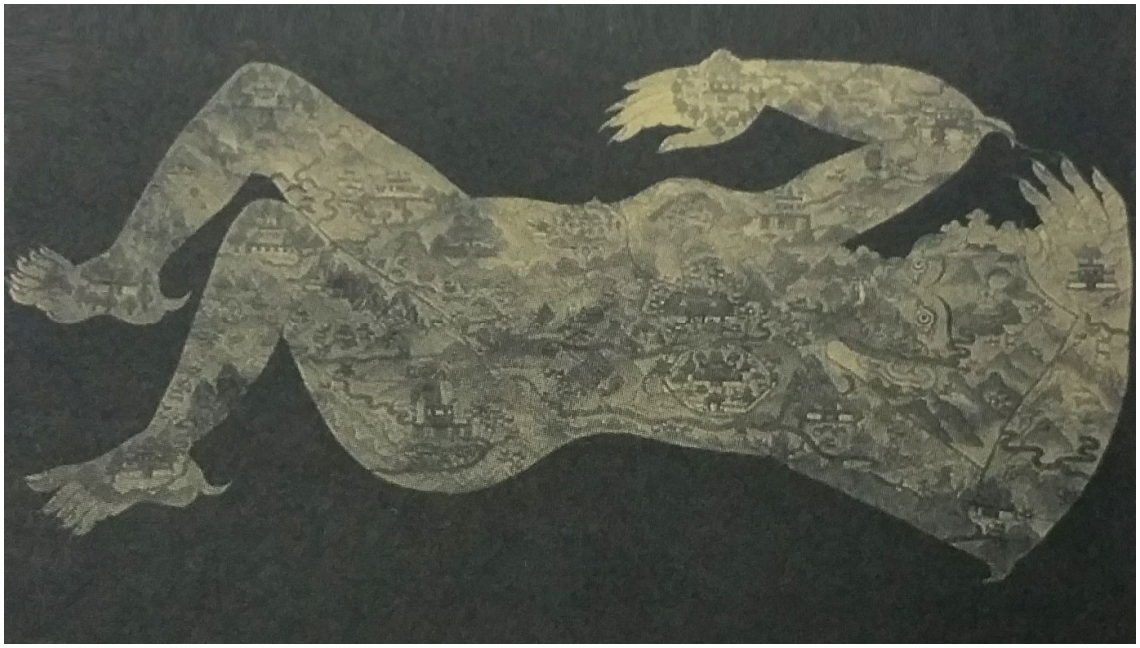


Fig.3-4 the teconic tamples for suppress ominous symbol of terrain[63]

Human express their emotions to landscapes, which has made emotions connecting to landscape. The layout of Cangpo Village located at the foot of the mountain is with "four treasures of the study". The space of the whole village is like a piece of “paper”, and the mountains in the front and at back are ink stick and slab. (Fig. 3-5) It is a mental representation of the common dream of all Chinese villages in these thousands of years, which is “culture of cultivation and reading”. Perceived archetype image is used to obtain the sympathy between environment and emotion.

[62] Architectural Survey and Design Research Institute of Tibet, *The architectural aesthetics of Tibet*, China Building Industry Press, 2011

[63] Wu Qingzhou, *The symbol image of the ancient city construction*, Chinese Building Industry Press, 2015, p.25

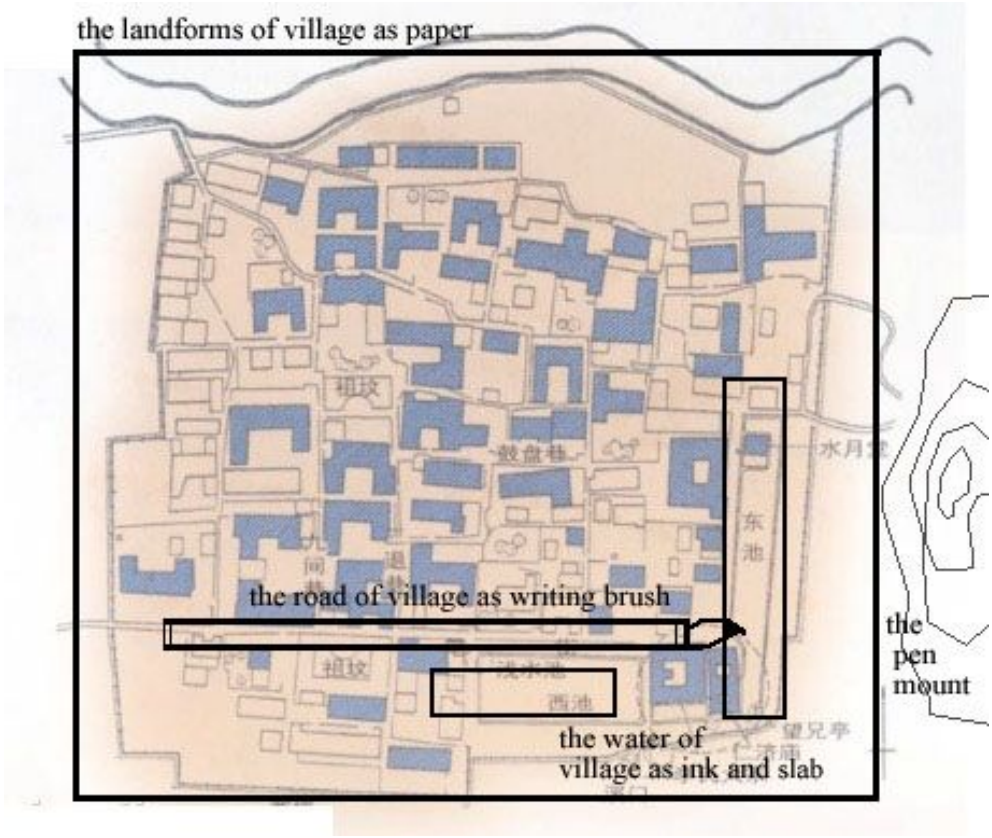


Fig.3-5 the 'scholar's four jewels'(writing brush, ink stick, ink slab and paper) awareness of Cangyan village landscape (955 *A.D.*)

Traditional society has strict hierarchy, and ruling ideologies of nation and gens all stabilize their social position with many ways, e.g. landscape concept of etiquette culture. Huaqing Palace is built upon natural landscape, and formed into an epitome of Chang'an. Gen Yue influxes essence of natural landscape where one can see the big demonstration. One river goes through each and every garden in "three hills and five gardens" in palaces in Qing Dynasty and present imperial landscape model with an image of "one lake with three hills", and it formed into the etiquette consciousness of influx of landscape in north and south. (Fig. 3-6) Landscape of natural scenic view is neat and in order, which is an expression of cultural transmitting of etiquette and dogma.

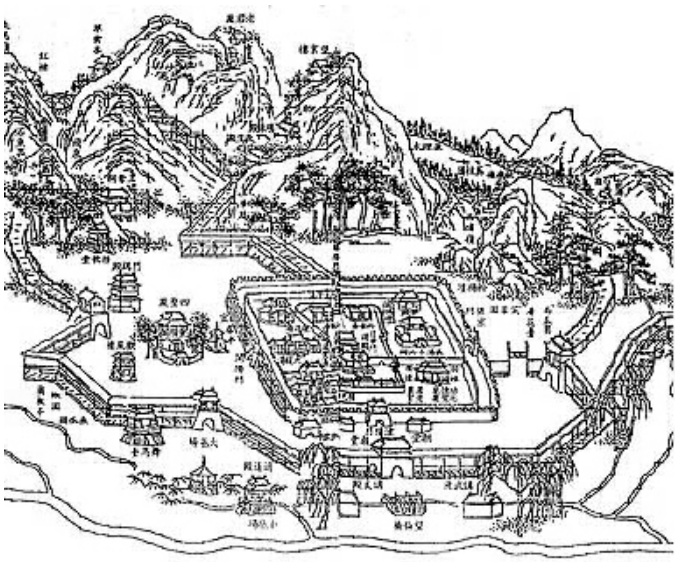


Fig.a The Huaqingchi landscape of Tang dynasty (747 *A.D.*)

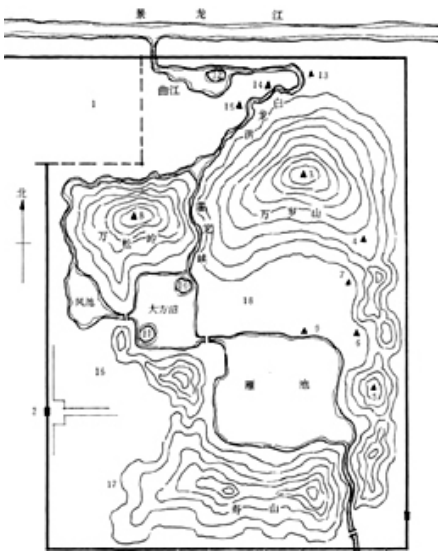


Fig.b The Genyue landscape of Song dynasty (1117 *A.D.*)

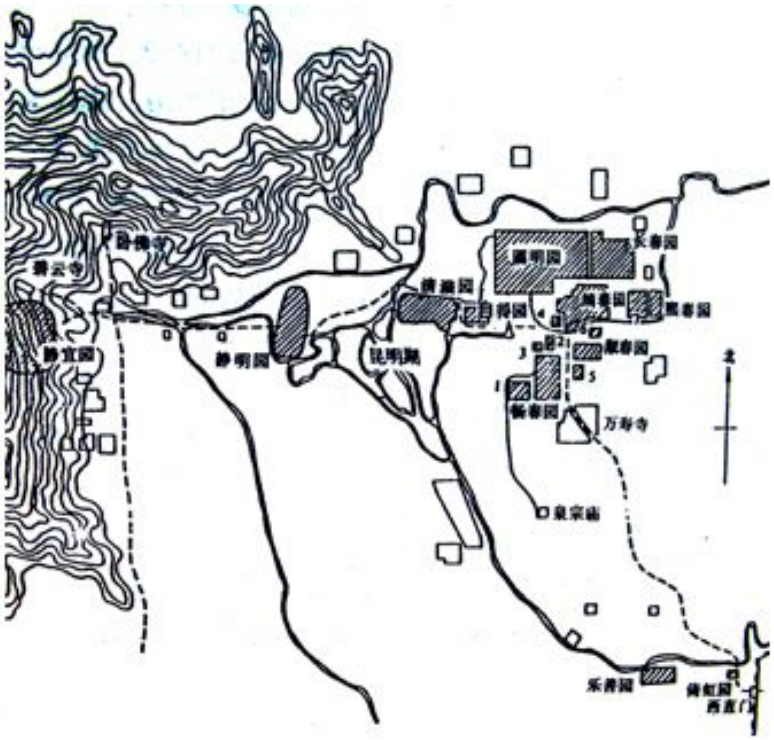


Fig.c The 'three mountains and five gardens' landscape of Qing dynasty (1680 *A.D.*)

Fig.3-6 the cultural transmit of etiquette and dogma in royal landscape [64]

Cultural transmitting of "Understanding and discovering your own beauty" [65]

[64] Wang Juyuan, *The history of Chinese classical garden*, China Building Industry Press, 2005,p.1004,1348,1529

[65] Fei Xiaotong. *"Human research in China——personal experience" Lecture*. 1990

has formed the different interest of aesthetics in landscape architecture ideology, and showed varied and graceful art characteristics. Imperial household pursues grand inclination of aesthetics. Religion landscape reflects beauty of ethereal misty. The north of Shaanxi province is high and far, and it forms into the plain and rough landscape. The social environment of the south area of Yangtze River where has rarely experienced famine and war has beautiful and refined inclination of aesthetics, and forms placid architectures landscape. (Fig. 3-7)

Fig.3-7 Plain and rustic awareness of landscape aesthetics in Nianpan village(1545 *A.D.*)
[66]

Fig.3-7 Beautiful and refined awareness of landscape aesthetics in Wu village(720 *A.D.*)

[66] Xing Zhijun, *Chinesesettlement and geographical environment*, Educational technology and equipment in China, 2010,vol.5,p. 7

3.2.2 Culture Orientation with Unified Core

Social political structure in ancient China is highly mature, a patriarchal system connected by lineage, which has combined with autocratic system and formed into a social and political system of combination between family and country. In the influence of this ideology, core culture becomes guide of concept and behavior. Confucianism, Buddhism and Taoism are in absolute commanding status, and they wisdom of philosophers in traditional society. Since then, the landscape ideology is formed into landscape mental representation type, and formed the typical landscape archetype image.

As to landscape creation, thought of Lao-tzu has more influence in imperial landscape mental representation. Thoughts of absolute freedom of Zhuangzi has deep influence in iterators and some scholar-bureaucrats, based on which Xanadu has been formed, and it's a gathering mental representation. Chinese local region Taoism combined this thought with mythology belief and become a region, and forms into archetypal image of fairyland. In Tang and Northern Song Dynasty, Mount Hua was the holy land of Taoism. [67] Taoist temples were in this fairy land imagination of Mount Kunlun. (Fig. 3-8)

Fig.a fairyland imagination

Fig.b The Qiushui landscape picture[68]

Fig.3-8 The landscape concept based on the spirit of Lao Tzu and Zhuang Zi

Confucius is the guru of Confucianism and centered on "benevolence". The political ruling class makes it combined with politics in rank order; literati under the education of ritual indoctrination formed the Etiquette College of mental representation on construction thought. The gens of regions of lineage gathered region make etiquette consciousness combine with marginal culture, and form the

[67] Cui Xiuguo. *The history of five mountains*. Zhonghua Book Company, 1982,p.45

[68] Qiu Ying. Qiu shui in Mount Na

sole and central but different space of landscape imagination. These imagery thoughts formed under the influence of the Confucian culture make landscape concept in accord with the precise hierarchy and natural space. In the process of the construction of traditional architectural landscape, primary and secondary are made a distinction and strict grade. The traditional system of culture orientation formed the archetypal image of etiquette and Xanadu landscape. (Fig. 3-9)

Buddhism was the exotic culture introduced from India into China. From absolutely absorbed the Indian Buddhism, it later combined with Chinese local culture and developed a variety of different sects. Though cultural impact, it fused into the traditional core culture. The Buddhism prevailed in Wei Jin Southern and Northern Dynasty, which made a large number of temples, pagodas and grottoes building in every hill and mountain in the landscape and the shrines of five mountains. In a specific architecture function and style and the unique religions thought of pure land, it formed the specific Buddhist archetypal image of pure land. (Fig. 3-10)

Fig.3-9 The landscape concept based on the spirit of Confucius landscape [69]

Fig.3-10 The landscape concept based on the spirit of Buddisim [69]

[69] Hao Runhua, Yang Xudong, *On the landscape*, Shanghai Ancient Books Publishing Company, 2010: 117, 56

3.3 Typical archetypal image

Typical archetypal image is the ideal landscape people pursuit to and want to. The ancient people's world view is dependent on heaven, earth and human. Pray and inspiration for heaven, worship and close to the earth and seeking for a settle down place is the changeless ideal pursuit. Yu Kongjian in *The Ideal Landscap* said: "The ideal landscape exploration may have multiple pathways, including landscape ideal of mythology and religion, such as the ancient Chinese myth of mountain wonderland; the cave of Taoism; Buddhism of the western paradise; landscape ideal expressed by artists, such as landscape, landscape poetry and landscape of garden art; landscape ideal reflected in daily behavior and statistics psychology, and so on." [70] Therefore, in traditional tectonic landscape image, it originated from cognition of world outlook of the relationship among heaven, earth and human of core traditional culture, and formed the fairyland, Sukhavati, etiquette and Arcadia four typical archetype images. It is the reflection of space concept of imagery thought and landscape archetype and the basis of objective reprensentation space.

3.3.1 Fairyland for worshiping and sacrificing

Through the structure of landscape and landscape construction relations matching the legendary ideal fairy environment, formed the fairyland or archetype image, including mental representations of immortal pavilion on island, a lake with three hills and natural in pot. Three ideas overlapping with each other, each offshore celestial mountains are all immortal mountains in the environment like pot cavity，which forms tectonic thought of architectural landscape.

From remote antiquity to traditional social, Mount Kunlun is the consensus landscape mental representation. It is said that four kilometers away from Mount Huaijiang to southwest is Kunlun Mountains. It is the capital of mortal world of yellow emperor. Vertical sequence pattern characteristics of basement of Immortal Mountain in water formed tectonic concept. People in real life looking for the similar concept of the landscape environment and shaping mysterious and fantasy fairyland seek immortality and spiritual practice. Vertical upward row upon row of immortal pavilion fairyland formed landscape thought of tectonic pavilion which surround mountains. Landscape sequences of Mount Tai and Mount Wudang are the representation of point out the scenery layout and architecture of Kunlun Mountains from the foot to top. It overall presents vertical upward and reflects the cultural connotation of the space from hell, mortal world to heaven. (Fig. 3-11)

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[70] Yu Kongjian. *The origin of ideal landscape: the cultural significance of Fengshui*. Beijing: The Commercial Press, 1998,p.116

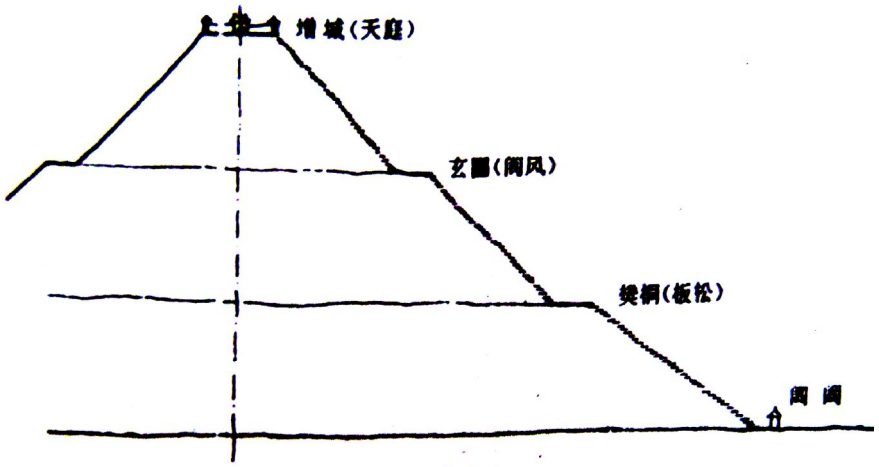


Fig.Ideal landscape of Mount Kunlun

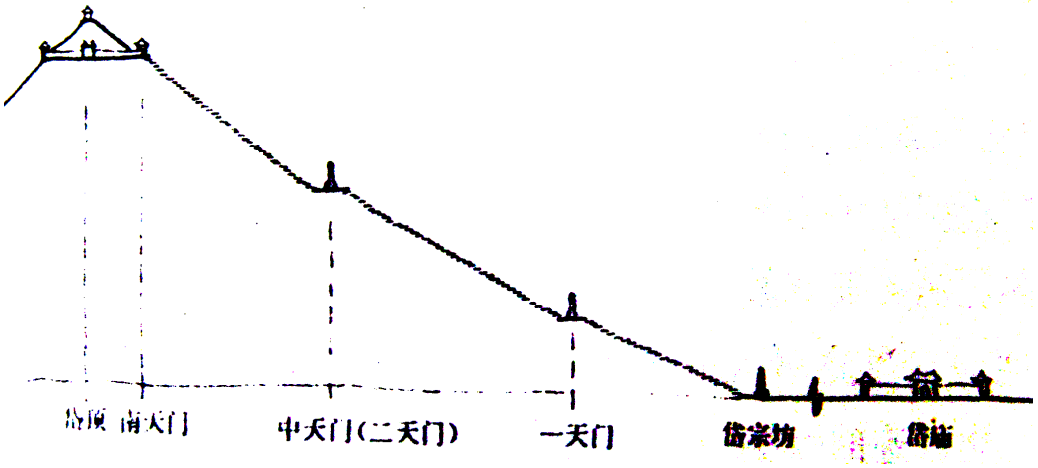


Fig.b The landscape concept of Mount Tai

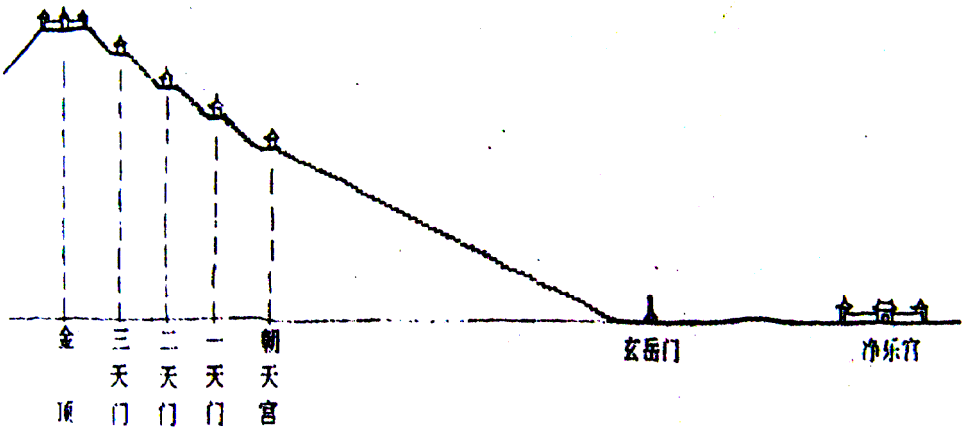


Fig.c The landscape concept of Mount Wutai

Fig.3-11 The Kunlun Fairyland archetpal image[71]

[71]Zhou Weiquan,*Garden·Landscape·Architceture*, Baihua Literature and Art Press, 2006,p.279

Real islets in sea because of hazes of mist and insulate space substrate, are similar to archetype image of Kunlun wonderland. In Poyang Lake, two buttes standing face to face due to geographical form of island and a number of epic myth legends. It became a fairyland landscape concept with pavilions just like fairyland built on different layers of island isolated from mountain. (Fig. 3-12)

Fig.a The Dagu island landscape concept

Fig.b The Xiaogu island landscape concept

Fig.3-12 The ideal island fairyland archetpal image[72]

Lie Zi •*Tang Wen* records that there are three mountains lie on the east of the Bohai sea, which are Fanghu, Yingzhou and Penglai. People living there are

[72] *Chinese Famous Scenic Sites*, China Building Industry Press, 2011,p.125-126

immortals. [73] This forms the islands-in-sea metal presentation of the sea surrounds three mountains. Lake District of the Mountain Resort in Chengde presents the fairyland tectonic thought of wishful continent, moonlight and sound of river and Huanbi three islands in one lake. Tripartite confrontation of three islands in west, Yunshui residence, and Yiyun pavilion hidden in the forest embody the Yingzhou landscape concept. Southwest of the West Lake surround the butte looks like Penglai fairyland.(Fig. 3-13)

Fig.a The Penglai fairyland [74]

Fig.b The 'three mountains in a pool' landscape concept in Summar Palace [75]

[73] *Lie Zi •Tang Wen*. Zhonghua Book Company, 2011
[74] www.guwan.com
[75] www.image.baidu.com

Fig.c The Penglai Taosim tample landscape concept
Fig.3-13 The Penglai ideal landscape archetpal image

Natural in pot came from the landscape mental representation of Taoist legends to contain a castle of the natural environment in the landscape in an inner cavity of gourd, which became one of the fairyland landscape space concepts. *The Tales of Immortals* of Ge Hong records "A man sold medicine with a gourd one day, and a man followed him come into the inner cavity and saw the immortal pavilion."[76]Natural in pot is the inner of a gourd in where a space from narrow to distensible, and the type of the mountain in gourd also looks like gourd. Hiding spacious nature in the limited gourd is to express the fairyland thought of seeing big things through small ones or hidden cosmos from different perspectives. It is said that the Xianren cliff is a place for immortal pray and always been saw. People built temples combined with caves to embody Taoist emulates Nature and the harmonious coexistence of human and immortal, which make the space characteristics of exploring. (Fig. 3-14)

[76] http://guji.artx.cn/Article/19968.html

Fig.a Bottle landscape fairyland [65]

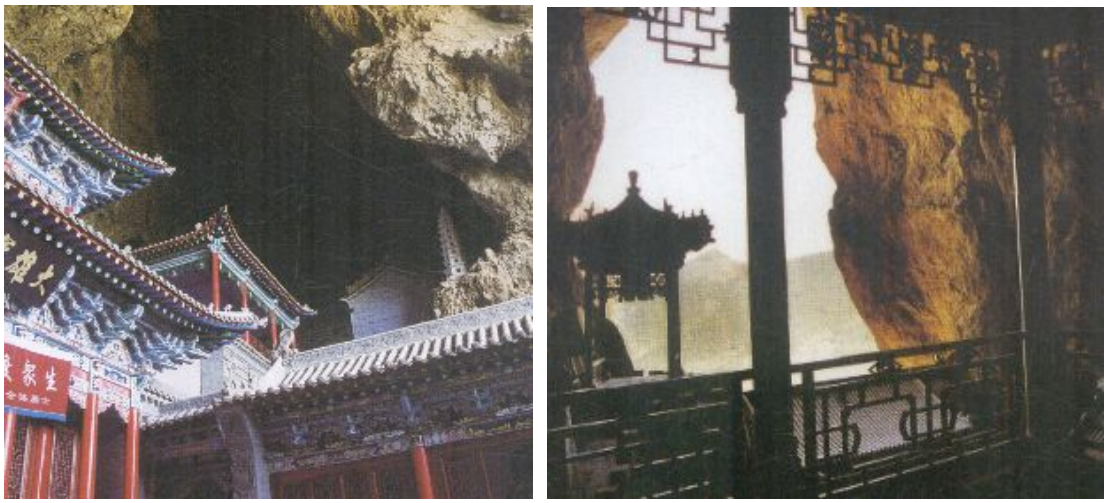


Fig.b The Buddism tample landscape concept of Tianshui cliff [77]

Fig.3-13 The bottle landscape ideal landscape archetpal image

3.3.2 Sukhavati for realizing the truth and philosophic theory

Buddhism was introduced into China since the east Han Dynasty. Because of

[77] Nan Shunxun, Nan fang. *The mode of Achitecture on mountain and river*, Shanghai Ancient Books Press, 2007,p.124

the influence of native culture, it formed unique Chinese Buddhism. The depictions of the Buddhist are different, but there is relatively unified basic ideal space, which is the Sumeru Mountain as the center of a small world. It is said that Sumeru were surrounded by immortal sea, and there were four Great Regions and eight Small Regions on the sea. The Buddha lives on the top and the heavenly Kings live on the mountain side, which makes the palaces surround the mountain. Tibetan Buddhism set Mandara totem archetype representation as the snowy pure land. It forms the ideal landscape space concept combined with mountains, sea and the Buddhist temples.

Sukhavati is the ideal Buddhist pure land. Buddhism thinks people are born for sufferings. Sufferings are derived from people's desire and only to dispel desire people can be extricated. Practicing Buddhism in landscape is to purify the mind. Monks always live in the mountain. Buddhist murals depict Elysium through architectural landscape to render Buddhist landscape peculiarity.[78] (Fig. 3-14)

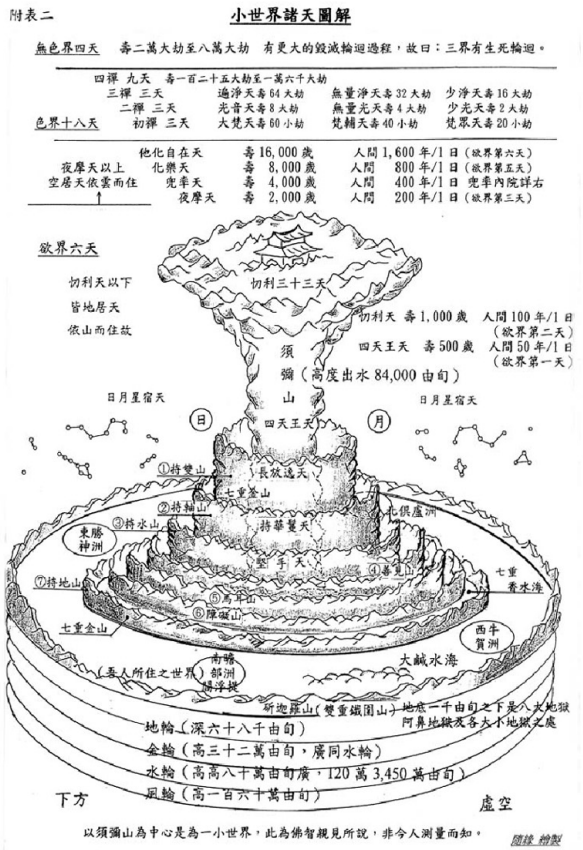


Fig.a Sumeru Mountain landscape fairyland [78]

Fig.b The Buddisim tample landscape concept [78]

Fig.3-14 Sukhavati landscape archetypa image

[78] Han Xin. *Chinese famous tampls*, Dongfang Press, 2006,p.56, 123-125

The four famous Buddhist rites are all not located in landscape. Temples are concentrated and hidden in the valley. Peaceful and purify the mind atmospheres are formed. Structure landscape concept of multi-layer surrounding mountains with mountains overlapping from outside to inside and from foot to top also formed in the process of building temples. It forms the majestic and grand ideal landscape. Mysterious cultural characteristics in Tibetan temple landscape derive from Tibetan Buddhism and local religions. Upward mountain layers match the wall and roof with deep color and resplendent decorations just like the fairy looking from an open space.

3.3.3 Etiquette with ethics and hierarchy

Etiquette culture is the main thought to control traditional architectural space. The core of etiquette culture is Confucianism. Confucian culture as a national criterion of live and behavior, etiquette culture of Confucianism made society became rigorous hierarchy building environment. [79] Confucianism does not have corresponding ideal landscape space, but the transmit through different landscape with gentle, dignified, and order thought; formed landscape concept of axial symmetry combining with the natural landscape vertical linearity. In traditional society with obvious hierarchy, it was embodied by imperial gardens, literati's residences and genss' settlement construction thoughts to express the respect for providence and teachers.

Consecrate to wise men in traditional ethical to and pursuit of being educated & reasonable formed rigorous type, obvious hierarchy, and thought of sacrifice landscape. Zhongyue temple as the beginning of royal Road of Fengshan on Mount Song, its axial symmetry architectural space reflects the upright of tectonic thought Doctrine of Mean presents the doctrine culture in neat formation of royal dominate. Temple of two immortals in Dujiangyan Irrigation System nestles the road of sacrifice hidden in forest, which embodies devout and elegant etiquette commemorate atmosphere.(Fig. 3-15)

[79] *Zhaomiaogongshikao*, Qing Dynasty

Fig.a The etiquette landscape concept of Zhongyue tample on Song Mount(207 *B.C.*)[80]

Fig.b The etiquette landscape concept of Two kings tample along Du River(494 *A.D.*)

Fig.3-14 Etiquette sacrifice landscape archetypa image

[80] Zhang Ying, *Traditional architecture*, Shanghai National Press, 2009

Academy is a unique educational system in the history of ancient education on a, educational system. It began in the Tang Dynasty and developed in Song Dynasty which usually built in quiet and secluded ideal landscape. Teachers are usually the seniors lived in forest but out of court, who only focus on knowledge, occasionally discourse affairs and provides thought for government. People often address them respectfully people live in mountain and cave. It is thus clear that environment combined with academy building formed the environmental landscape construction concept, and embodied location choosing thought of the hermits. Academy of Bailu cave hidden in the mountains formed the hidden and peaceful atmosphere. Academy of Yuelu in piedmont presented the layout of the courtyard, which reflected the landscape concept of etiquette culture. Landscape structured for learning, space of pavilion and ancestral hall and courtyards all contained elegant culture and became the record of moral integrity and encouraged descendants to seek for mental shackles. (Fig. 3-15)

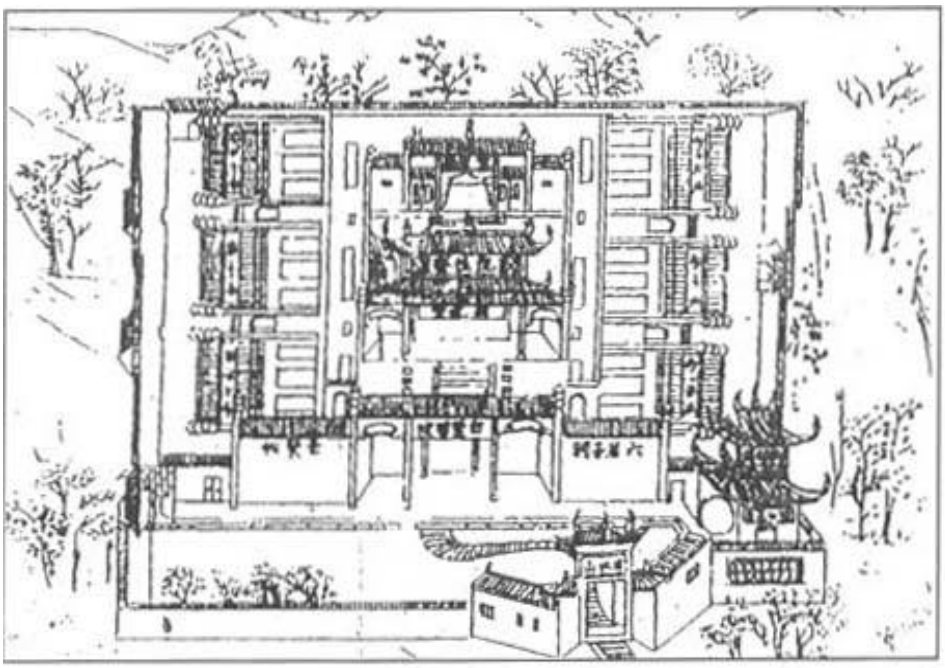


Fig.a The etiquette landscape concept of Bailu cave academy(618 *A.D.*) [81]

[81]Yang Shenchu. Chinese architectural aesthetics 10·Academy. China Building Industry Press, 2001

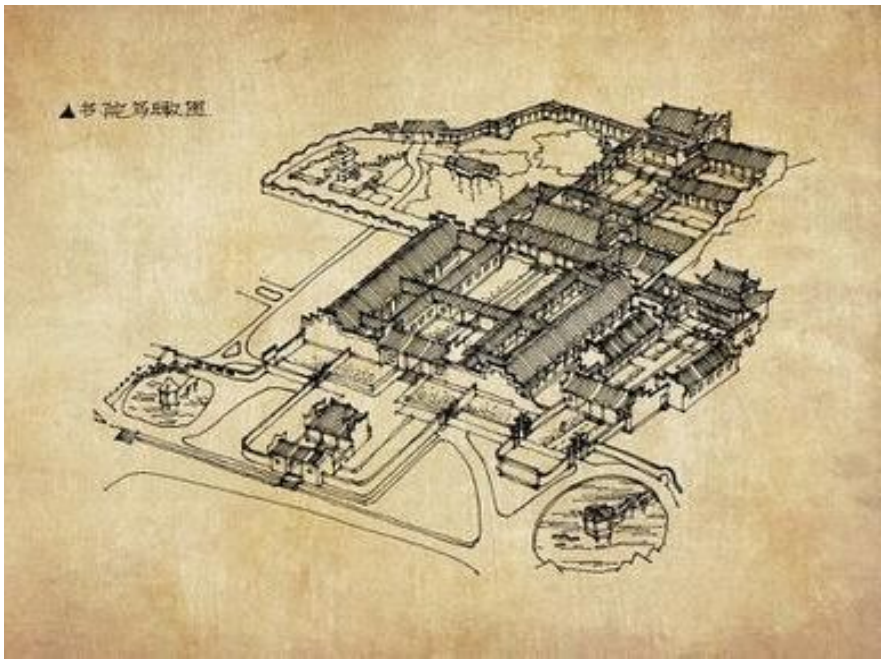


Fig.bThe etiquette landscape concept of Yuelu academy (973 *A.D.*) [81]

Fig.3-15 Etiquette academy landscape archetypa image

3.3.4 Paradise of heaven on earth

Natural terrain provides material resources for living, and more offers defensive barrier. People live in the landscape pray for living steady and propagating. Landscape became the ideal environment of location, regardless of beliefs, living habits and spatial form. The most enjoyable or pleasant place in poets' articles of Jin dynasty formed the ideal landscape of sequestered life without conflicts, troubles or ease. It is invisible at the first sight, but suddenly feels to be expansive space later, forming the landscape concept of reclusion. (Fig. 3-16)

Fig.3-16 Xanadu landscape concept [82]

[82] Hao Runhua, Yang Xudong, *On the landscape*, Shanghai Ancient Books Publishing Company, 2010: 136

Xanadu (a fictitious land of peace and happiness) landscape concept is a kind of tectonic landscape thought of settlement landscape with sustainability of development. "Settlement construction in fact is the process that landscape concept and space reflected to the real world."[83] The location thought of architectural landscape strictly followed Fengshui archetype. In order to escape from the war, they moved to Miao village on the top of the mountain. They built wooden architecture to meet to the mountain, and clusters aggregation tectonic thought formed the peculiar safe and enjoyable space to Miao village, see fig. a. Shangri-La in Qinghai-Tibet plateau which interpreted as a fictitious land of peace is an ease and peaceful place with stone keekwilee-houses standing in the mountains with a mask. [84] Literati used landscape to express characterization of emotion. Some of them reveled in the landscape; some escaped darkness of common customs and moved into mountains; some were degraded to other places and some lived in the placed blessed by God. These contain architecture and landscape which contains thick atmosphere of scholars formed a variety of structural view thought.[85] Wangchuan villa formed the tranquil and poetic Xanadu landscape with retractable style and features combined with houses and pavilions, and became the reflection of poets' interest of living in seclusion. (Fig. 3-17)

Fig.a Settlement hidden in the mountain[86]

[83] Wang Jun, *Learn form the settlement all over the world*, China Building Industry Press, 2012: 42

[84]Zhou Weiquan. Garden·Landscape·Architecture. Flowers literature and Art Press, 2006,p.156

[85]Zhang Ying. Traditional architecture. Shanghai People Press, 2009

[86]Wu Zhengguang. The Miao village.Tsinghua University Press,2013,p. 79

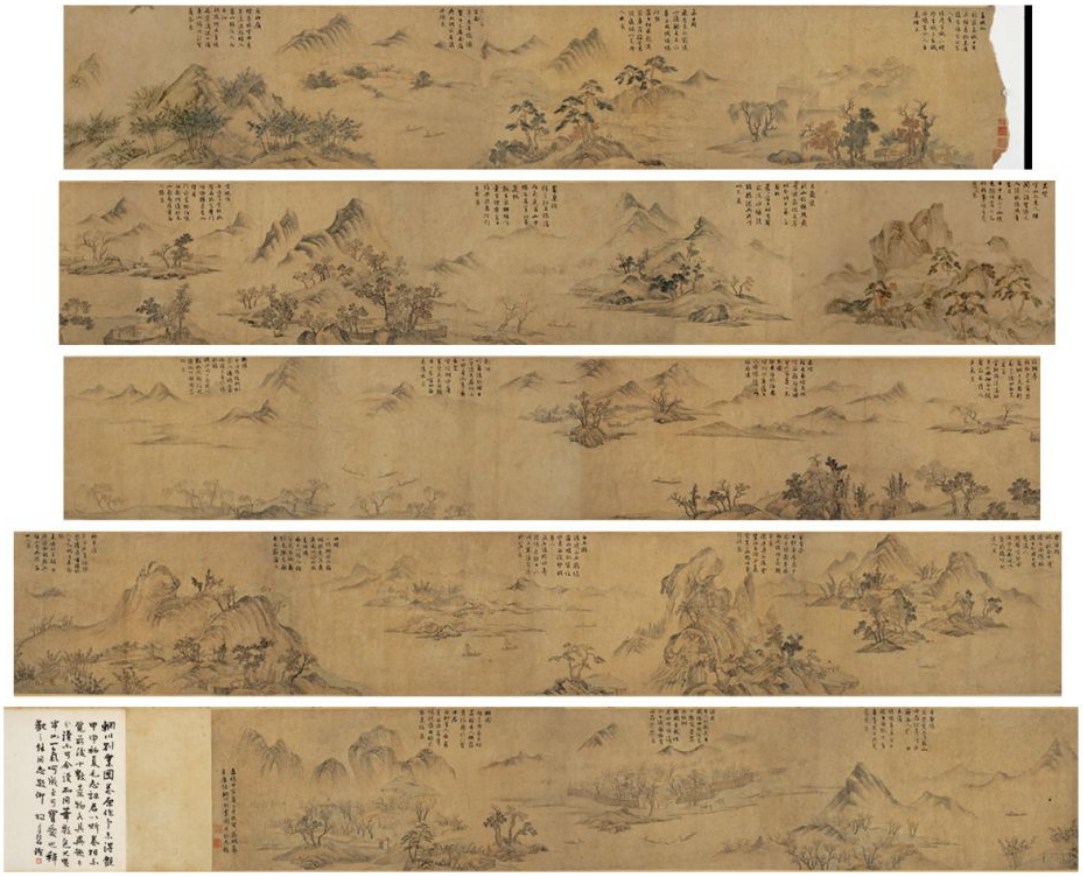


Fig.b Landscape concept of literatis seclusion in the mountain and river[87]

(Wen Zhengming "Wangchuan Seclusion" 1554 *A.D.*)

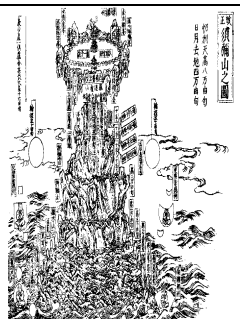
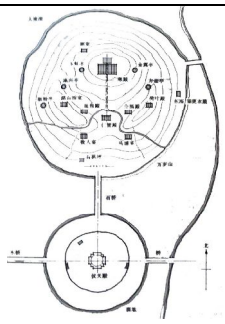
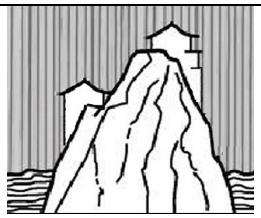
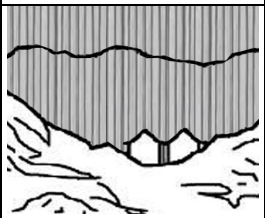
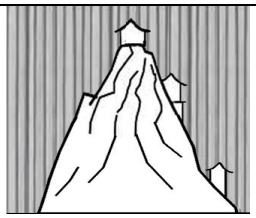
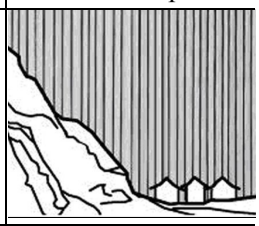
Fig.3-17 Xanadu landscape archetypa image

3.4 Spatial morphology of materialized mental representation

Spatial morphology of concretization is formed according to the core traditional cultural character of spatial morphology of mental representation. (Tab. 3-3)

[87] Yu Jianhua. Chinese ancient paiting, Beijing: People's Art Press, 1998,p.607

Tab.3-3 The space type of typical landscape archetypal image

Type	The Fairyland	The Sukhavati	The Etiqutte	The Xanadu
Graphic				
Impicatio n	Mount Kun、 Penglai、	Sumeru Mount Hidden and peaceful	Axis space sequence rigorous hierarchy	Seclusion and concentrate
Cultural feature	illusion as an immortal	bliss and eternal monastic	gentle and ethical thought	steady and propagate living
Cultural concept	high and far mountain in river	high and covert mountain	obvious orders and vertical linearity	depend on mountain and face to river
Pattern	misty and lofty	hidden and closed	axis and sequential	continuous spread
Graphic				
Objects	the architecture built on the mountain	the architecture scattered hidden in the mountain	the architecture makes landscape order	architecture built from piedmont to foot of mountain
Graphic				

Both are fairyland and the Sukhavati in fairy-mountain in the sea, which is a lofty ethereal basic form based on overriding stereotypes, and it is used to explain cultural characteristics of being away from land & being detached. Kunlun, Penglai and Sumeru are mountains in the water, which are formed into misty and expanded spatial morphology. Mount Kunlun and Penglai are both fairyland in the sea, which has become the root of mountain and water combination between religious ritual

and culture scene selection mechanism, which has formed an elusive fantasy space, towering into the sky, and it is difficult for mortal to arrive and climb. [88] Therefore, the fairy atmosphere of being high above the land world is rendered, and the basic lofty spatial morphology is formed.

Being hidden inside in closed space is a spatial consciousness based on culture of "Being hidden" of four prototypes. In Confucian ethics, "Being hidden" has become an ideological principle of living and dealing with people. [89] The traditional temples were mostly built in mountains or on mountains, which were detached from the earth and to present the idea of no desire with demand. Buddhism pursues a realm of vulgarity, and they located in quiet and remote mountains which is an integration of environment and pursuit. Being ascend to heaven is the purpose of Taoism and therefore distant mountain wonderland hidden in earthly existence has become belief and the pursuit of inaction hidden world of Taoism. Civilians also sought refuge in seclusion and secure, and Xanadu is an isolated, quiet, peaceful and ideal state. Therefore, and ideal spatial morphology of being hidden inside in closed space is formed in the influence of these cultures.

Axis sequence is a spatial morphology of group structure landscape architecture archetype image, which has made group structures located in a certain sequence and primary and secondary specification, which is the embodiment of traditional Chinese linear way of thinking and is a show of materialized hierarchical traditional culture. Kunlun Mountain is full of fairy temples, surrounding the mountain level by level. Sumeru Pure Land Buddhist temples are also located in accordance with a certain grade level in the whole space. Habitat ceremony makes landscape in traditional hierarchy ruling system in a neat and symmetry order. Xanadu is a combination of Confucianism and local gens culture, and architecture with clear arrangement of prioritized continuous matrix and landscape of continuous reflect descent.

Continuous layout type is spatial concept of group architecture clustering in the landscape, a spatial morphology of gathering or scattering with the potential structure formation. [90] This artificial construction is entirely in accordance with the natural matrix, and the landscape architecture is an expression of natural culture. Unique plain terrain, four clear season climate and modest, gentle and kind culture have formed a set of etiquette. Although replacement has always occurred to culture, and different cultures cluster together, but the main focus is profound traditional

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[88] Pan Guxi, *Landscape aesthetic in Jiangnan*, China Architecture & Building Press, 2001,p.12

[89] Chen Shuiyun, *Chinese landscape culture*,Wuhan University Press, 2001,p. 60

[90] Wu Bihu, Liu Xiaojuan, *Chinese landscape history*, Shanghai People's Press, 2004,p.3

Han culture, which is always the core ruling area of monarchy, and is also the focus of existing imperial set of etiquette, forming the gathering landscape shapes association.

Spatial concept of landscape mental representation is based on structure relationship between architecture and landscape, to convey concept of cultural landscape characteristics, and to form specific spatial shape, which is the mental representation characteristics derived from rendered images.

Chapter 4 Objective Representation of Traditional Architectural Landscape Image

The concept of tectonic landscape of traditional architectural landscape is represented by objective representation of architectural landscape through spatial form of architectural landscape, and forms the spatial type with both material and cultural characteristics. Objective representation formed by architecture and landscape structure is the space-media of subjective cognition and place for perception behavior thus forms spatial cognition factors. Material space is deconstructed into specific factors, and according to the interrelated entirety forms logical relation of space configuration. Culture carrying of tectonic image and unique ideographic vocabulary become the symbolic object of transmission of implication. It makes landscape objective representation become connecting carrier of tectonic landscape and perceived landscape through space.

4.1 Spatial type of landscape objective representation

Landscape concept forms specific form by use of factors construction such as mountain, river, plant and architecture etc. According to the actual landscape form, tectonic relation of terrain and architecture and cultural characteristics, landscape objective representation form specific forms various landscape space types base on specific form.

4.1.1 Mysterious and lofty space type

Immortal rivers and mountain surrounded by immortal sea and high potential architectural layout form mysterious and lofty space type. The combination of actual landscape pattern and architectural situation derives three kinds of space, including mountains in sea deriving into island landscape in water and lofty mountains into Plain Mountain or precipitous cliff landscape.

The landscape of Dagu Mountain and Xiaogu Mountain are built on two islands in the river, and architecture surrounding mountain in misty rain is like immortal space, see Fig. a. The top of lofty mountain is the derivation of objective presentation which means ritual touches to the heaven. The golden palace which forms the space of reverence providence is built on the golden top of cloud-wrapped Wudang Mount, see Fig. b. The architecture on the precipitous cliff that looks like built by immortals becomes the objective derivation. The suspended temples are built overlapping along the mountain form the imaginary and arduous space, see Fig. c. (Fig. 4-1)

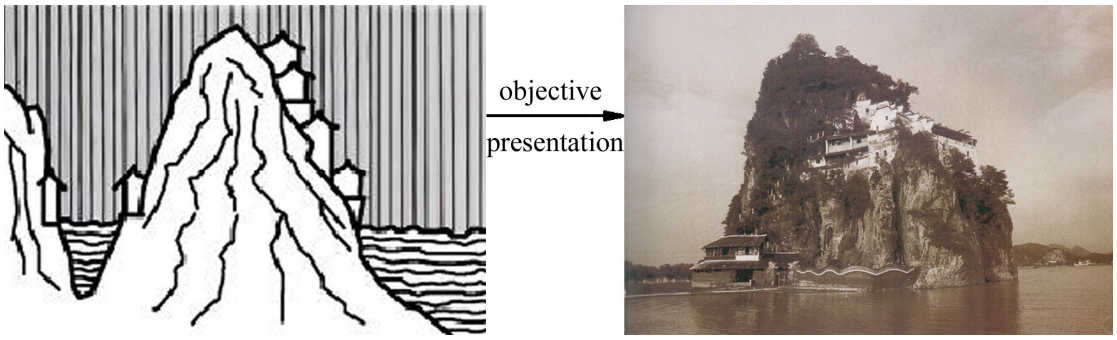


Fig.a Taosim tample of fairyland presentation on Xiaogu island (1652 *A.D.*)

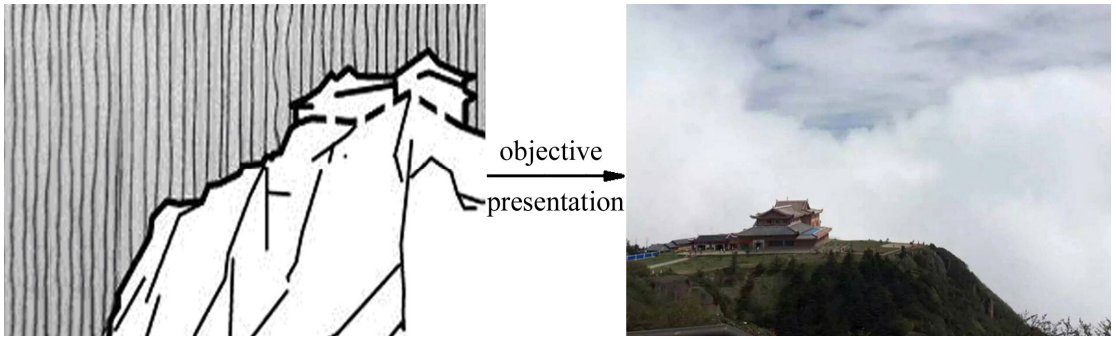


Fig.b Taosim king palace of fairyland presentation on Wudang Mount peak (1416 *A.D.*)

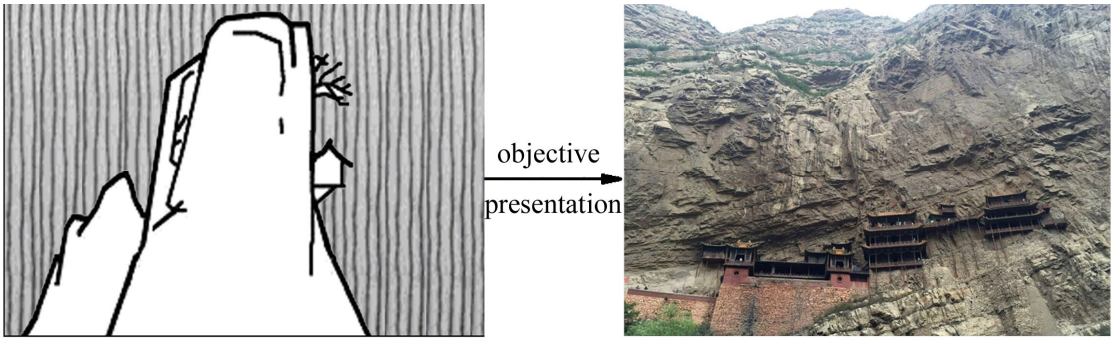


Fig.c Suspended temples of fairyland presentation on Heng Mount cliff (504 *A.D.*)

Fig.4-1 Objective presentation of misterious and lofty pattern of landscape archetypal image

4.1.2 Hidden and inner-closed space type

Hidden and inner-closed space type derives from the fairyland in pot cavity and Xanadu. The architecture was built hidden in the nature so that the landscape derived two types including landscape space that hidden in the cave and plants and settlements built in isolated concave in the valley of mountains.

The cave through closed marginal interface forms definitive breach. [92] The architecture was built in the opening space which extends to the inner cave and

[91] http://www.baike.com/wiki/

[92] Qin Lunshi, *Feng shui*, Neimenggu Industry Press, 2007,p. 23-78

was isolated from the outside, thus formed the latitudinous and narrow space. Ganlu Temple in the east of Jinhu County in Fujian were built follows the trend of the cave and constructed in the naturally-occurring cave. The architectural interface from outside to inside which were hidden in each other formed the mysterious inner-space, see Fig.a. The valley was covered by mountains and plants formed natural hidden terrain. The settlement landscape by use of the only channel connected to the outside formed exploration of secluded space. There are many rolling mountains in Guizhou. The architecture in Dong village were built in the valleys and covered by plants like fairyland, see Fig.b. (Fig. 4-2)

Fig.a Ganlu suspended tample of fairyland presentation hidden in cave (1146 *A.D.*)

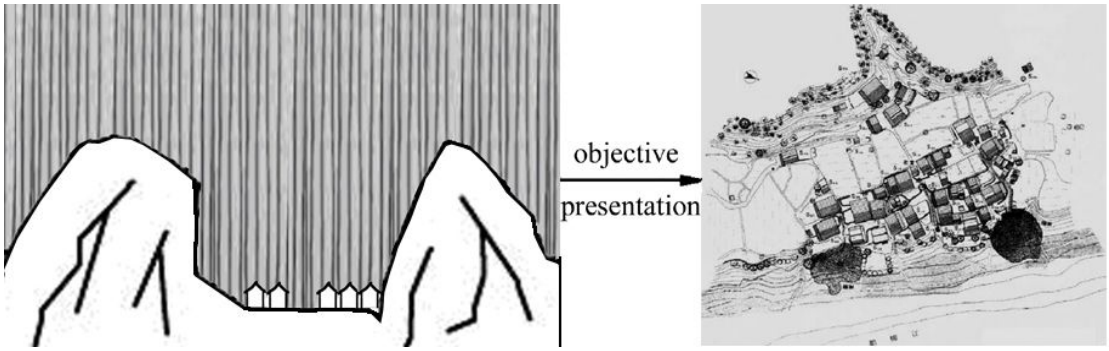


Fig.b Dong settlement of fairyland presentation in valley

Fig.4-2 Objective presentation of hidden and inner-closed pattern of landscape archetypal image

4.1.3 Axial order space type

Axial order landscape type formed according to Confucian etiquette culture. Regular layout following the terrain formed structure space and derived two types including vertical and horizontal hierarchical space.

The horizontal architectural layout extends on the ridge. The levels of architectural forms and specifications become lower from top to the foot of mountain, see Fig.a. The five pavilions of Mount Jing are built as the landscape space and become the end of Forbidden City. The central point is on the axle wire of imperial palace space which symbolically represented the culture of emperor.The vertical depth of architectural layout forms axial landscape space, and the combination of building function and forms with changes of mountains reflects the hierarchical culture. The vertical axial order sequential royal road landscape of the middle road in Mount Tai associated fragmentation space from the foot to the top of the mountain reflecting the solemn and respectful space concept, see Fig.b. The Dai temple is the beginning of axle wire of landscape sequence of the whole mountain and is the metaphor of hell. Daiding is the end of axle wire which is the metaphor of heaven. It plays up the pray atmosphere from hell to heaven. (Fig. 4-3)

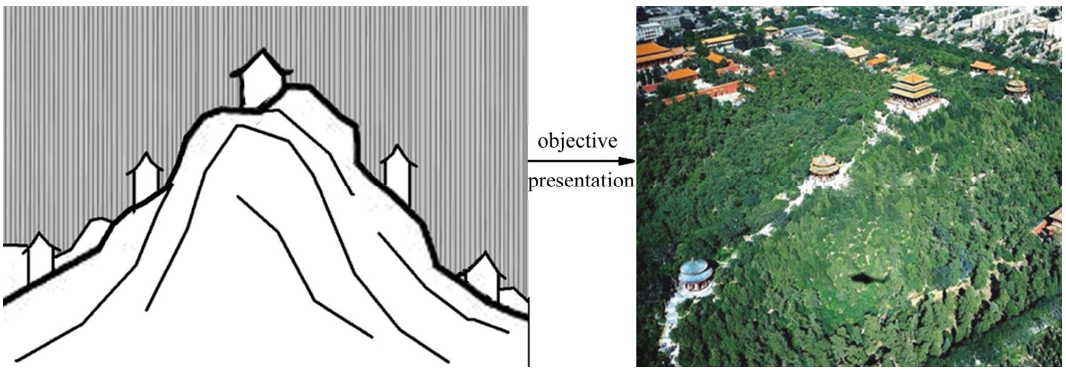


Fig.b Horizontal architectural axis of fairyland presentation on Jing Mount (1655 *A.D.*) [93]

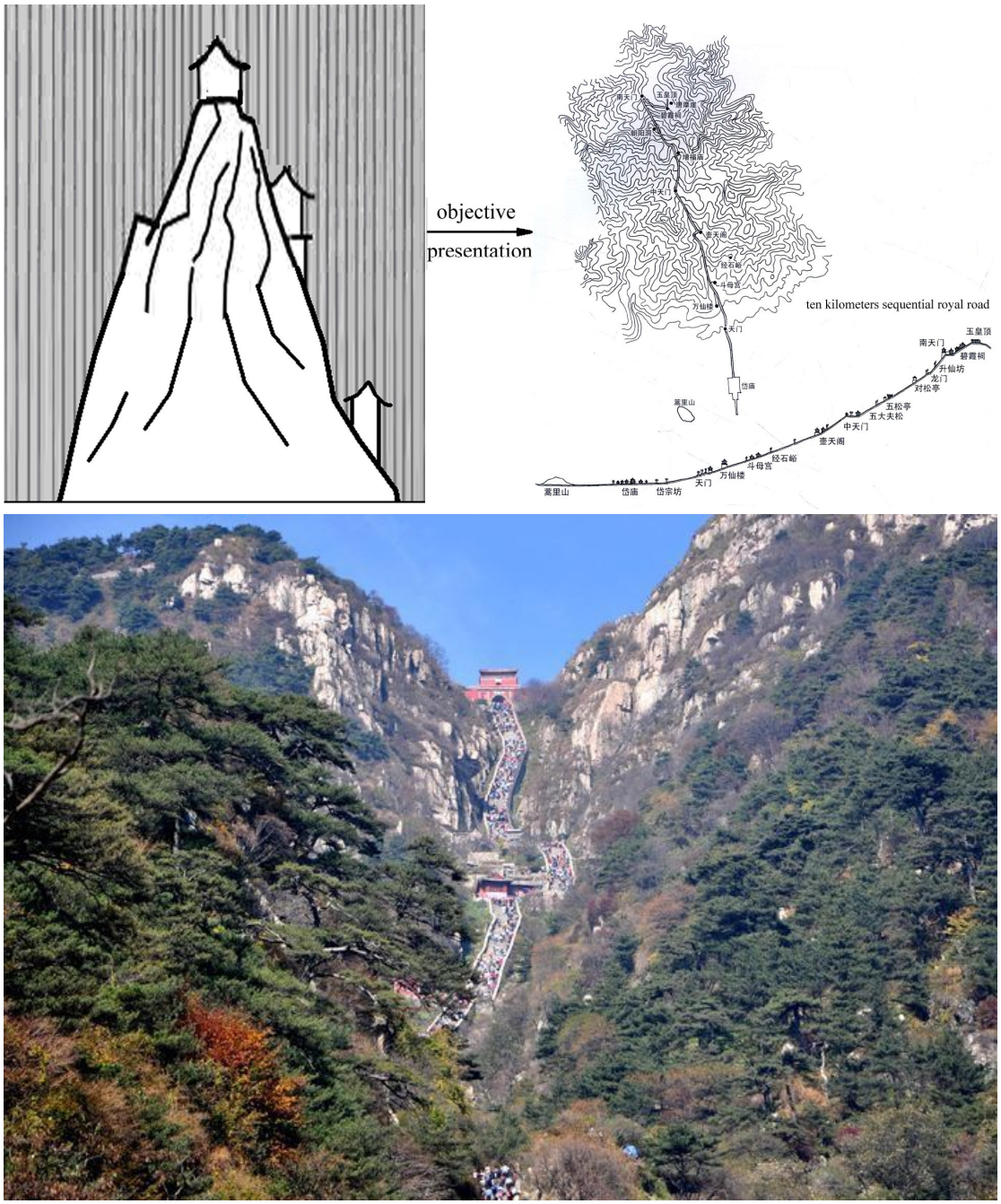


Fig.a Vertical sequential royal road of fairyland presentation on Mount Tai (1012 *A.D.*) [94]

Fig.4-3 Objective presentation of axis and sequential pattern of landscape archetypal image

[93] http://www.image.baidu.com

[94] Mount Tai Scenic Area Management Committee. World Heritage Series: Mount Tai, World Book Publishing Company, 2008, p.126

4.1.4 Consecutive and amplificatory space type

Because of the difference of clan culture, consecutive and amplificatory space types derived three types of architecture hidden in the landscape including cluster gathered，scattered amplificatory and surrounding space.

The Dong village settlement along the Duliu River is structured on the platforms which are parallel to contour line with different elevation of 65% hillside. The stacked layout of architecture from piedmont to the Duliu River forms dotted space. (Fig. 4-9) Thousands of barbicans are built in Danba Qiang Village hidden in Hengduan Mountains. The unified architectural style and function of high barbicans and low residence in Suopo Village reflects the culture of gens. (Fig. 5) The Potala Palace is built surrounding the top of the mountain like a part of it. There are three roads for kowtow around the mountain. The continuous zigzag parapet walls just like chains anchoring the architecture on the top of mountain. The ideological and practical structure symbolizes the concept of mysterious providence and the associative space which makes people produce imagination is the combination of sacred and the secular.

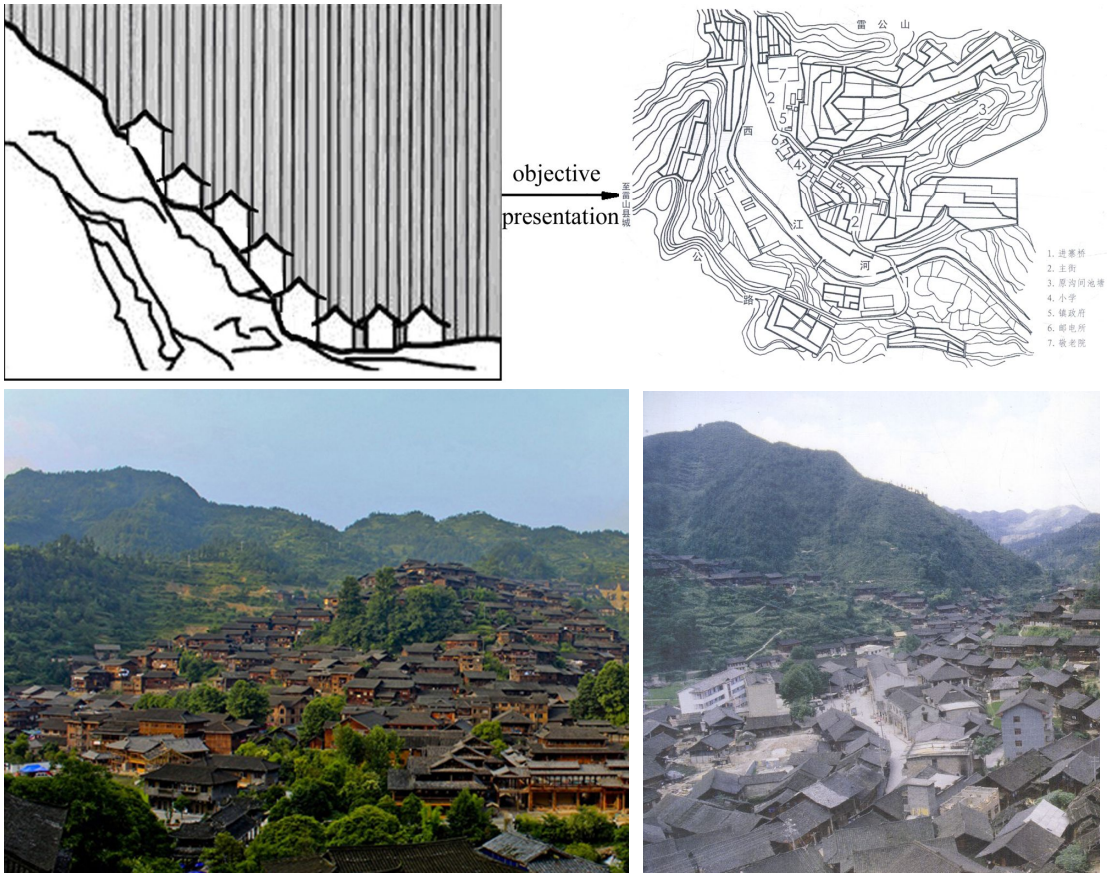


Fig.a Miao village of fairyland presentation (1012 *A.D.*)

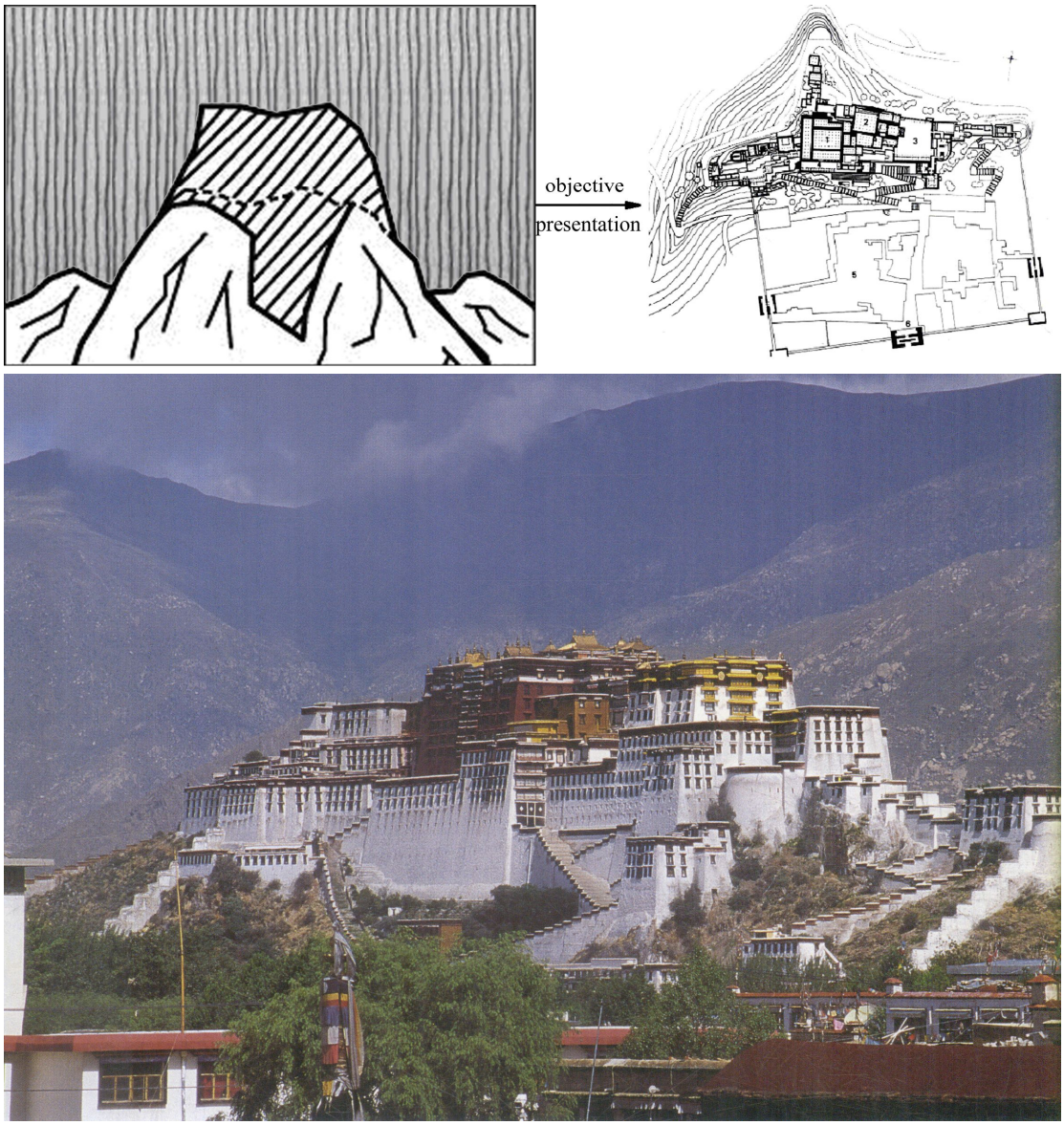


Fig.b The Potala Palace of fairyland presentation surrounding the mountain (the seventh centure)

Fig.4-4 Objective presentation of continuous spread pattern of landscape archetypal image

4.2 Spatial characteristics of landscape objective representation

Because of the different space types, the landscape forms unique spatial characteristics including order, hidden-appeared and rhythm. “It means the landscape image and momentum are created together.” [95] It takes the structure relation of architecture, mountain and river to reflect the atmosphere of the

[95] Yu Jianhua. Chinese ancient paiting, Beijing: People's Art Press, 1998,p.305

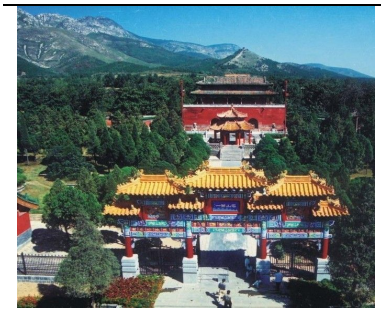
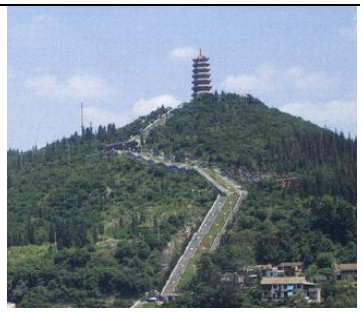
landscape culture.

4.2.1 Order type

Order is the space characteristics formed under time-space dimension to represent the landscape stratification. In *The Chinese wisdom,* Li Zehou holds that: "The Chinese architectural space represents order experience. It makes people perceive the process and change of space."[96]

The axial order is created on different elevation along the vertical direction which forms linear landscape on mountain. The symmetry yards of Zhongyue Temple on Mount Song refers to the Imperial Palace and reflects the continued and rigorous Confucian etiquette culture. The Yan Ziling residence nestles below the green mountain and faces to the river forms a horizontal axial order. It reflects the reclusive and wise Confucianism culture connotation that hermits pursue to. The Wenbi pagoda on Mount Wen in Yunnan looks like a pen which symbolizes the reading culture. The road to the pagoda on the top of the mountain is a surround order of 'Z'. It reflects the devout culture of invocation. (Tab. 4-1)

Tab.4-1 Axial sense of order

Vertical order	Horizontal order	Tortuous order
		
Tample on Song Mount[97]	Yanziling seclusion [98]	Pen pagoda[98]
sanctity and symmetric	clacid and extend	bending and turning

The landscape represents the curvilinear and free order under the natural design following the terrain. The Slender West Lake forms banding landscape by the river across scattered architecture. The landscape design likes nature form. Scattered layout of pavilions, terraces and open halls combined with river system forms appropriate rustic charm that attracts people to explore. Xiling Society of

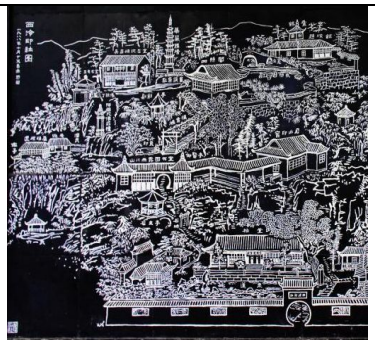
[96] Li Zehou, The Chinese wisdom

[97] Han Xin. Chinese famous tampls, Dongfang Press, 2006,p.56, 147

[98] Zheng Yi, Huan Xiaoning. Landscape and architecture, Dongnan University Press, 2007, p. 13, 57

Seal Arts locates in the south piedmont near the West Lake which is a gathering place for literati and painters. The four linear orders from the entrance to the central yards by the natural mountain forms architectural landscape. The spacing is free on the varied elevation. The order of regions is formed along the river. The space is wild opened near the river and closed in the street which makes different perception in the same settlement landscape of associated orders. (Tab. 4-2)

Tab.4-2 Curvilinear and free order

Banding order	Cluster order	Associated order
 Slender West Lake [99]	 Xiling Seal Engravers' Society	 Xitang settlement
wide and narrow	delicate and rotative	interspersed and freedom

4.2.2 Hidden and protuberant type of location

Hidden and protuberance are the relative spatial characteristics. Set building as main landscape part to define traditional landscape threshold, with the cover of landscape native element to form hidden and protuberant characteristics from different viewpoints. They are either closed conceal or wide grandeur. Therefore, hidden and protuberant type is the perception based on vision and the relation of architecture, mountain and river, and changes according to the movement of behavior.

The form and height of the main architecture of group buildings located in the foothills is protruding. It symbolizes some kind of power or religious culture. The main shrine of 'Cuoqin' and 'Zhacang' of Ganden Sumtseling Monastery in Zhongdian, Yunnan built on the mountain breaks through the flat space of piedmont

[99] Zheng Yi, Huan Xiaoning. Landscape and architecture, Dongnan University Press, 2007, p. 86

with other architecture cluster round and forms the up layer by layer sense of security which emphasis the religious status. The towering Sui Pagoda on Tiantai Mount in Zhejiang breaks through the skyline of mountains and forms protuberant vision center. The Taoist temple is hidden in the plants in Qingcheng Mount from far away. After walking along the winding path, the Taoist temple emerges. The change of hidden and protuberance reflects the cultural trait of coordination with nature of Taoism culture. (Fig. 4-5) Hui merchants rise abruptly and return to Huizhou. They built the concentrated settlement landscape on flatlands for defense hidden in the mountain. These hidden settlements reflect the culture of safe residence.

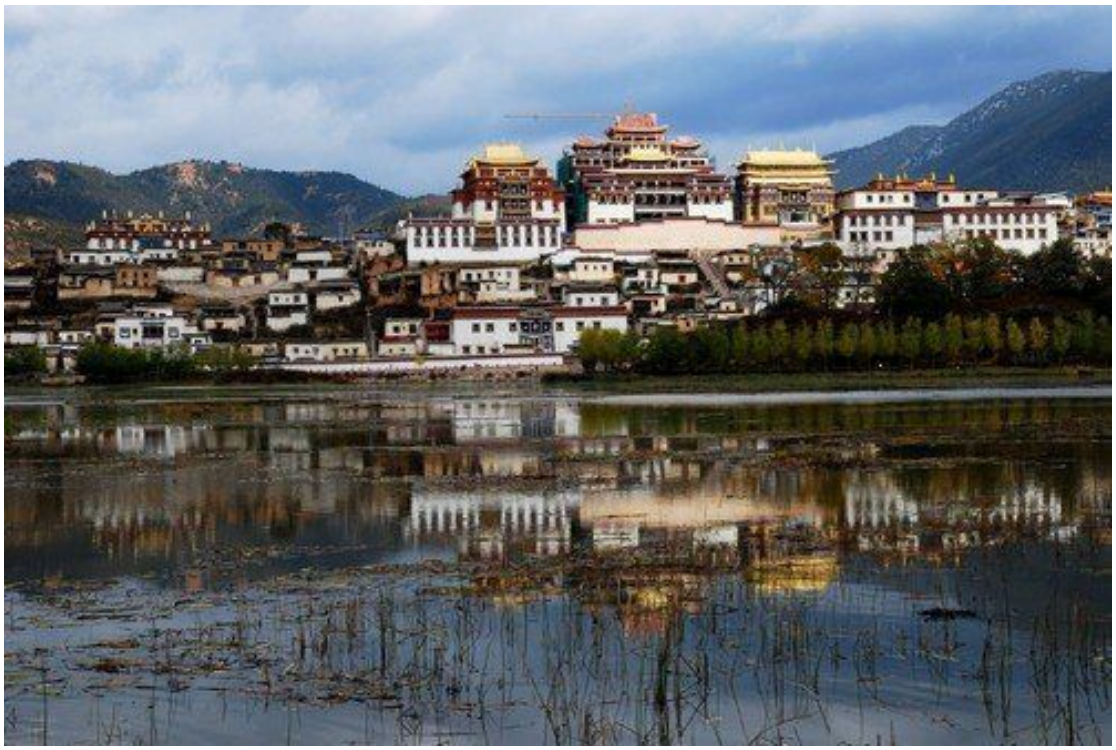


Fig.a GedansongzanlinTamples protuberant from other architecture on the mountain in Tibet (1679 *A.D.*) [100]

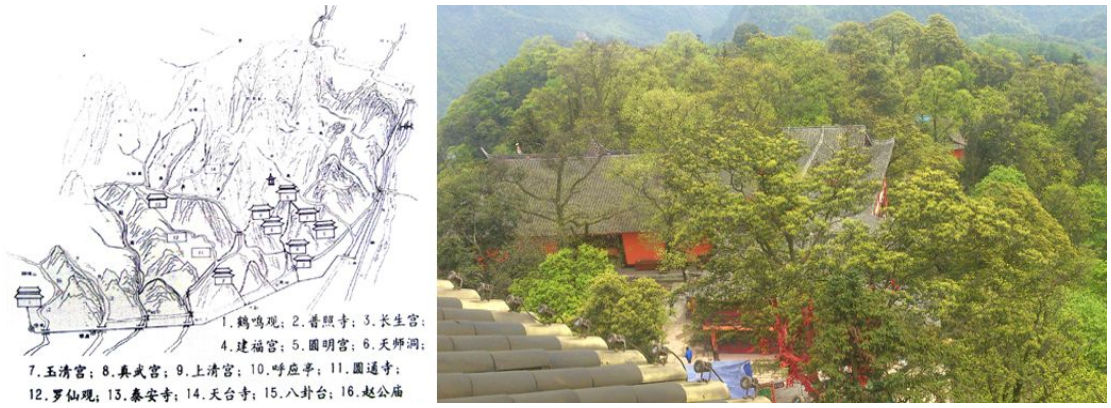


Fig.b Chang Taoism tamples hidden in the forest on Mount Qingcheng (1662 *A.D.*) [101]

Fig.4-5 The quiet religional landscape hidden

4.2.3 Hidden and protuberant type of interface

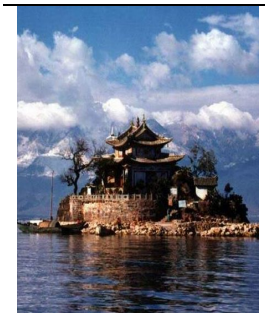
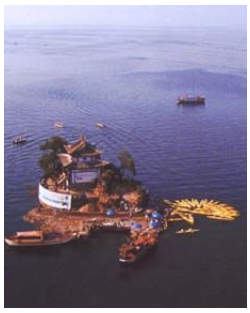
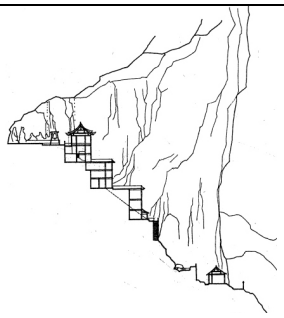
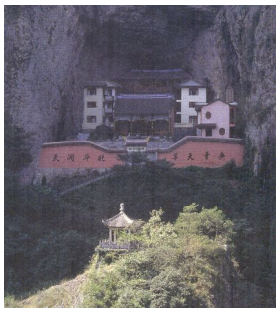
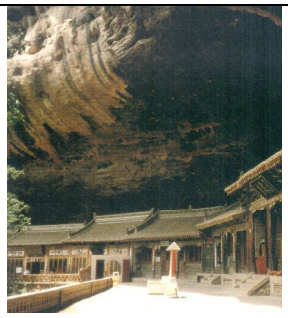
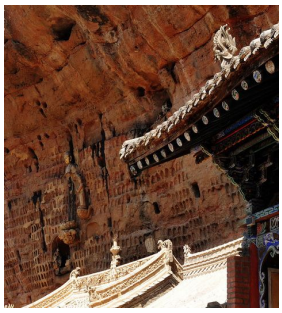
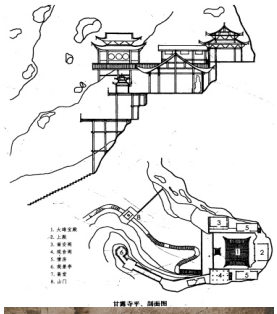
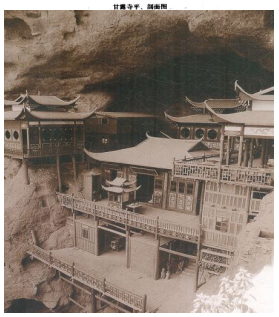
Through the hidden and protuberant interfaces of architecture, mountain and river, three tectonic relations formed including separation, tangency and intersection. It is the space structure of the architectural outside interface and reflects the specific cultural concept.

When the architecture and natural interfaces are separate, the whole architectural interface reflects the cultural metaphor. The Putuo temple built on the island in the sea reflects the placid religious culture. Guanyin temple on North Yandang Mount is superposed on the interfaces of the mountain and they conceal each other, thus forms contractile axial perception. Buildings are constructed according to the natural cave in the foot of Immortal cliff in Tianshui, Gansu. The temple for commemorate immortal conforms to the topography is juxtaposition and reflects the equal and placid religious atmosphere. The Ganlu temple expanded and repaired along with different dynasties is hidden in the mountain layout. The architectural interface is covered from the foot to the top of the mountain and the architectural space corresponds to the cave, thus form the characteristics of wonderful inside. (Tab. 4-3)

[100] www.image.baidu.com

[101] Xue Linping, *Chinese Taoism tample*. China Building Industry Press, 2007,P.26

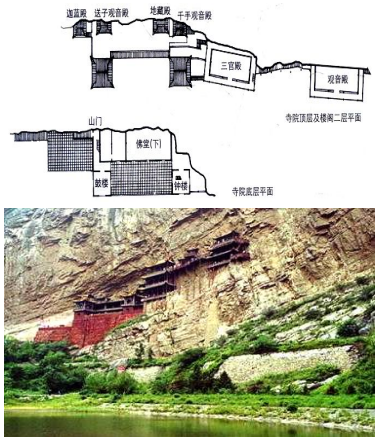
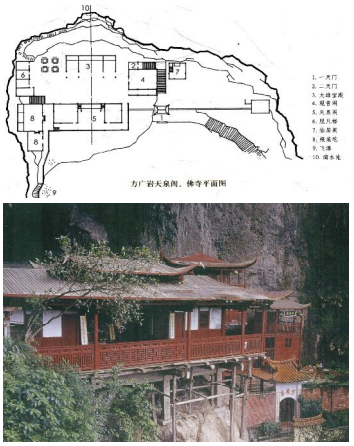
Tab.4-3 The separation of the architectural and natural interfaces

Separation of single interfaces	Vertical separation of multi interfaces	Horizontal separation of multi interfaces	Gathered separation of multi interfaces
  Putuo tampple in Er Sea(1857 *A.D.*)	  Guanyin pavilion in Mount Yandang[102] (979 *A.D.*)	  Tample under Xianren cliff in Tianshui[102] (1406 *A.D.*)	  Ganlu tample in the cave [102](1146*A.D.*)

Because of the application of material quality, the coordinate of hierarchies and the architectural facade is replaced by mountain or river, architecture and interface of landscape nestle up. It makes tangency landscape space. Taking advantage of precipitous and craggy interface, more than 40 Phimeanakas of Xuangkong Temple are built on Heng Mount. It makes the architecture embed into the cliff and forms fantastic and natural space characteristics. The architecture of Wu Village is built on the river using of the quadrate stones foundation like pillow on the river. It makes the interface like the bank of river and forms flowing and dynamic space characteristics. The Tianquan pavilion of Fang Guangyan built landscape space in the limited cave. Taking advantage of precipice interface and the architectural surface it is bulit on stilts, which forms cryptic space characteristics. (Tab. 4-4)

[102] Nan Shunxun, Nan fang. *The mode of Achitecture on mountain and river*, Shanghai Ancient Books Press, 2007,p.93,97,99

Tab.4-4 The tangency of the architectural and natural interfaces

Tangency of single interfaces	Continuous tangency of single interfaces	Tangency of multi interfaces
 suspended temple on Mount Hengshan (504 *A.D.*)	 architecture along the river in Wu village	 Tianquan pavilion in Fangguang cave (1591 *A.D.*)

The natural structure of mountain and river become architecture inside space which forms the intersection relation. Wufeng College totally set cave interface as the construction base, and the only facade forms the whole landscape space and become covert landscape spatial characteristics. (Fig. 4-6)

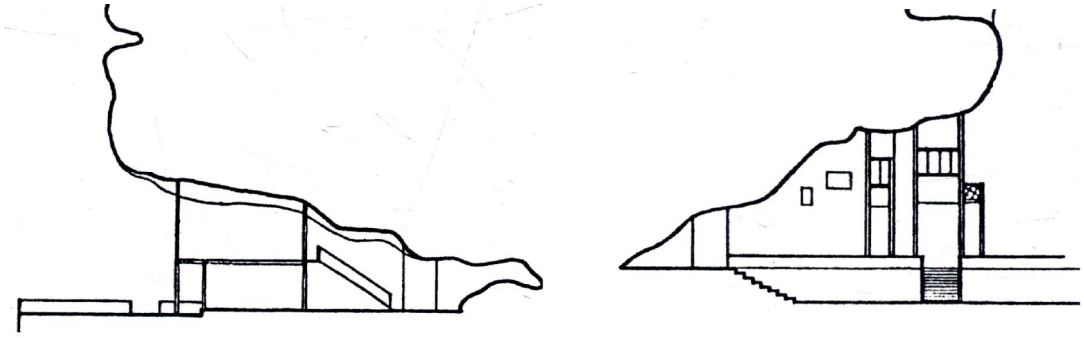


Fig.a the intersection relation of Wufeng academy interfaces (507 *A.D.*)

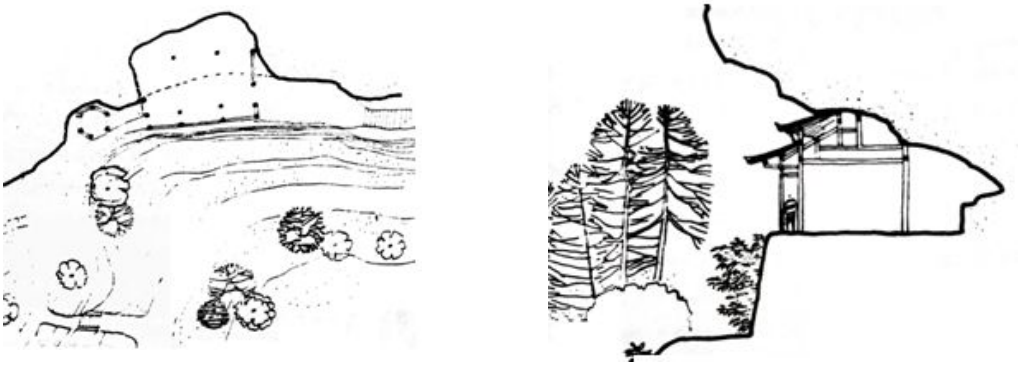


Fig.b The intersection relation of Taosim tample interfaces in Chaoyang cave (1875 *A.D.*)
[172]

Fig.4-6 The intersection relation of the architectural and natural interfaces

4.2.4 Rolling rhythm type

Rhythm is the natural tendency that people born with. It expresses the cadence and rolling. The landscape forms rolling, wide and closed spatial rhythm characteristics through the change of architecture and landscape skyline.

The unified and repeated factors make the basement of rhythm representation during changing and coordinating. There are small and big caves on the cliff of Longmen Mount in Shannxi. It provides natural terrain for building religious temples. A series of religious pavilions constructed from the bottom to the top form rhythmic and picturesque cadence.The buildings reflecting the adoration of fairyland and ruling thought of emperor controlled hierarchical culture in imperial landscape. Its dominance position makes a distinction between the important landscape objective space and the lesser ones. Therefore the architectural landscape forms rigorous rhythm. Summer Palace forms a rolling landscape skyline of explicit center from south to north including Seventeen Arches Bridge, Tempe of Gratitude for longevity of the front Longevity Mountain, Sumeru fairyland on the other side of mountain, and the market at the foot of the mountain. The scale, order and location of architecture and nature reflect the etiquette culture of monarch-subject ideas. (Fig. 4-7)

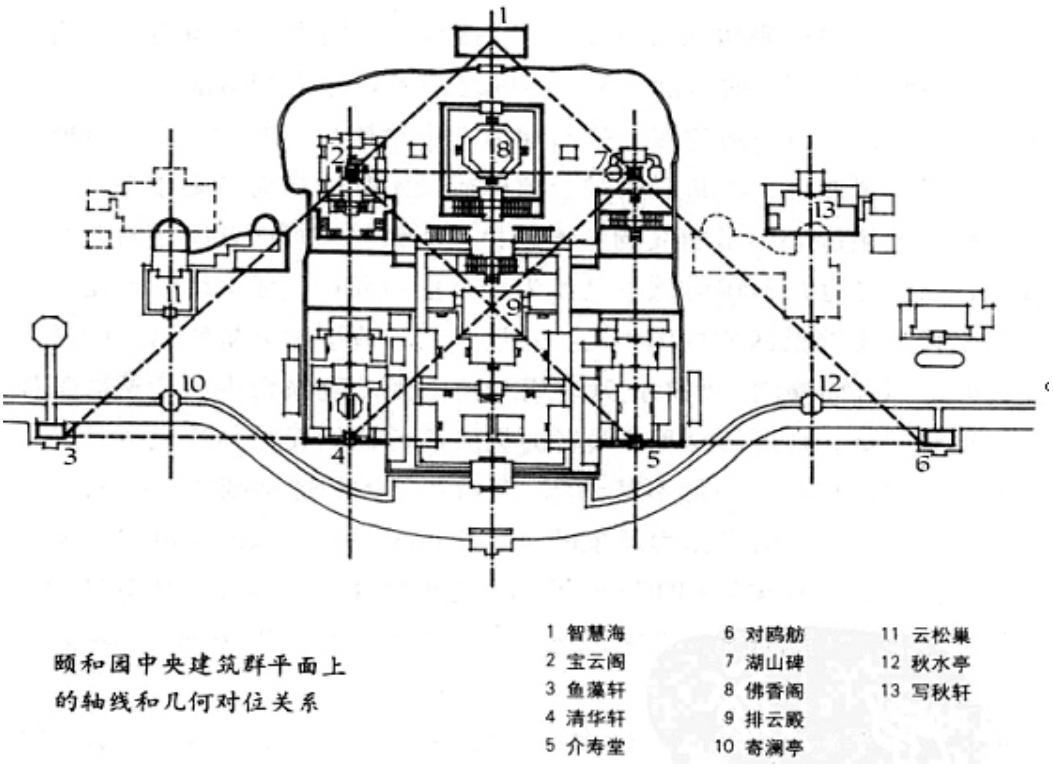


Fig.a The geometry contrapuntal relation of palaces plane

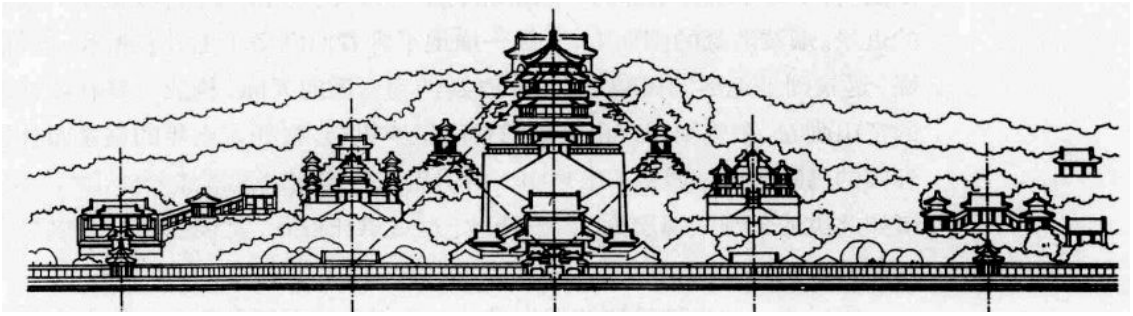


Fig.b The axis relation of palaces facade

Fig.4-7 The rythem sense of Summar Palace[103]

4.3 Spatial cognition carrier of landscape objective representation

The specific space types contain the cognitive factors including path, node and landmark. Because of the different cognition degree of landscape space, it forms logic relation of configuration. Configuration is "the configure contour of parts and factors". [104] Hill defined space configuration as "a set of independent system of relation and each relation depends on others".[105] The configuration makes landscape

[103] Zhou Weiquan,*Garden·Landscape·Architceture*, Baihua Literature and Art Press, 2006,p.277-278

[104] Luna F, Katarzyna M J. *Space and Time in Languages and Cultures: Linguistic diversity*, John Benjamins Publishing Company , 2012,p.156

[105] Bill H. Julienne Hanson. *The Social Logic of Space*. Cambridge University Press; Reprint edition, 1989, p.34

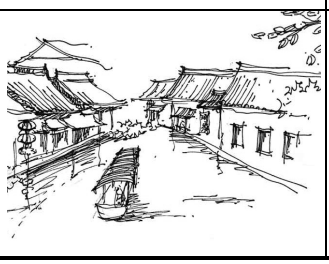
image factors interrelated. It reflects the material and social connotation. The relation of space and social connotation is interdependence, dialectic and interaction. People create the space and are influenced by space. [106] It bears the landscape concept which makes landscape become the combination of object and implication.

4.3.1 Spatial cognitive factors

The tectonic landscape image is the combination of landscape concept and objective space including material and human experience. The cognitive factors are formed by subjective perception of the landscape concept which is the basement of the landscape implication.

Kevin Lynch proposes five factors of image including path, node, edge, region and landmark in the theory of 'Urban Image'. Because of the same space structure of architectural landscape and urban，there is medium for human behavior and perception which form the representation of landscape image. The wide and boundless landscape region is hard to be perceived so that there is no explicit boundary in landscape image. They are atmosphere factors. Based on the perception of material space from subjectivity, cognitive factors of three images will be obtained. (Tab. 4-5) The spatial and particular cognitive factors of objective representation become people's perception image which can be identify from impression. They are substantive but interrelated configuration.

Tab.4-5 The comparison elements of the landscape image

Image elements	Path	Node	Landmark
Definition	the habit, accident, potential route of perception	the cultural representative and deep impression of perception	reference pot identifiability of perception
Landscape elements	viewing path、settlement path、coastal path	concentrate or cross pot of paths，contains landmark	Architecture, structure of specific meaning in central node
Eample			

[106] Duan Jin, Bill H, *The research of Space (3 space syntax and Urban Planning*, Dongnan University Press, 2007, p. 20

Spatial cognitive factor of objective representation of tectonic image is the objective pattern of archetypal image and provides the medium of perception, and becomes composite fragment space based on the configuration. The network of paths constitutes the landscape space. The crossing of paths is node and the architectural in the important node is landmark which reflects the specific culture. The space of landscape objective image is quantified by space configuration to represent the spatial characteristics. It makes the landscape concept can be perceived by human through the space after the cultural accumulation inheriting.

4.3.2 Configuration of logical relationship

Compare with the analysis of objective representation spatial characteristics between landscape image and space syntax, see Tab. 4-6, the space syntax can be used to analyze the landscape image. The space syntax can be used to analyze the image cognition based on space configuration, i.e. the analysis of cultural attribute and spatial relationship. "The logical language reflects the interpersonal relationship by space syntax, aiming to describe the space structure."[107]

Tab.4-6 The comparison of the landscape image and the space syntax

	Landscape Image	Space Syntax
Difference	Landscape image is the conversion of social significance by objective representation, and the imagery space configuration map.	Space syntax pays attention to the abstract description of the space and intends to reveal its fundamental structure or spatial correlation structure.
Correlation	As for the description of the space, both regard the visual perception as the entry point essentially, revealing the influence of spatial form on people's perception. While the impressiveness of image and the intelligibility raised in space syntax are consistent in the coreference of social attribute, emphasizing that the space is not only the objective entity but also includes the embodied cultural background.	
Advantage	Stress the function of each factor in the space	Stress the structural relation of space
Disadvantage	Ignore the fundamental structural relation between factors in the space	Ignore the function of space factor
Adoption	Combine the two into one, regarding the space configuration as the medium, using the factors to reflect the image and paying attention to the mutual structural relation among factors.	

[107] Zhu Qing, Wang Jingwen, Li Yuan, *The space syntax of urban space image*, *Huazhong Architecture*, 2005,vol 4,p.46

Axis is the common method for analyzing the texture in space syntax. The group architectural landscape space similar to the urban space also has the perceptible fragment space. Thus, the syntax expression of cognitive elements research in architectural landscape image mainly adopts axis as the descriptor. Based on the configuration relationship of image cognitive factor, the quantitative criteria of space syntax technical parameters is adopted to convert assessment, which mainly uses integration value to analyze the reachability of axis and describe the spatial agglomeration or scatter degree in the system, combines connectivity value and depth value to analyze the open and covert characteristics of landscape space and proves that there is corresponding relationship between the spatial tectonic concept analyzed by the axis and human's image cognition to verify the represented social attribute meaning. The space configuration of landscape objective representation presents landscape image, being the medium of perceived image as well as the material element of abstracting landscape image assessment factor.

4.3.3 Configuration Characteristics of Concept

4.3.3.1 **Axis of path**

Path is a major factor in landscape image, because people observe and experience the space characteristic of landscape through path. Axis in syntactic analysis is similar to path. Axis expresses the strategic vision and potential movement relationship, and path is a rational or perceptual formation while the choice made by people is an intuitional vision and direct movement relationship. By describing axis with path, we can analyze path imagery in tectonic concept, its integration value is related to image and recognizability in cognitive image, axis with high integration is in consistency with the main cultural representation path guidance space which is the space with highest recognizability and image.

Path space in Basha Miao Villages is naturally formed along the mountains. There seems no law of the space, but through space syntax analysis of path, we find that the linear paths cross in a balancing network configuration. The path enclosed by naturally formed landform and architectural interface connects various landscape factors, and constitutes a spatial configuration with behavior development and path recognition. Path integration differs greatly, which is to be seen in Fig.a and b. The thicker the axis is, the higher the path integration will be, and the larger the scale is, the higher the building intensity will be, and such path is an extension of main paths to other villages. Strong aggregation of path means that there is gathering space like

drum field around, and it is objective representation space with collection of settlement core culture, see Fig. c-d.(Fig. 4-8)

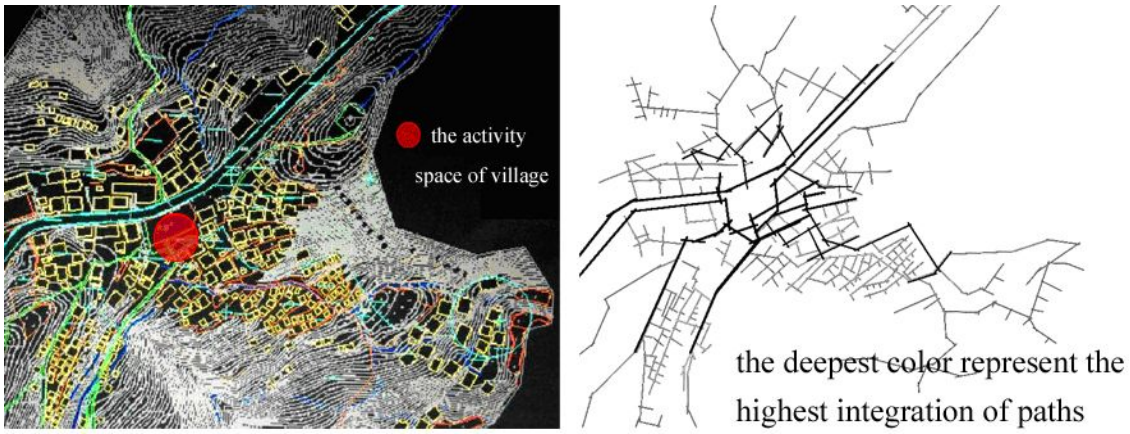


Fig.a Space configuration of path imagery elements in Biasha Lao village

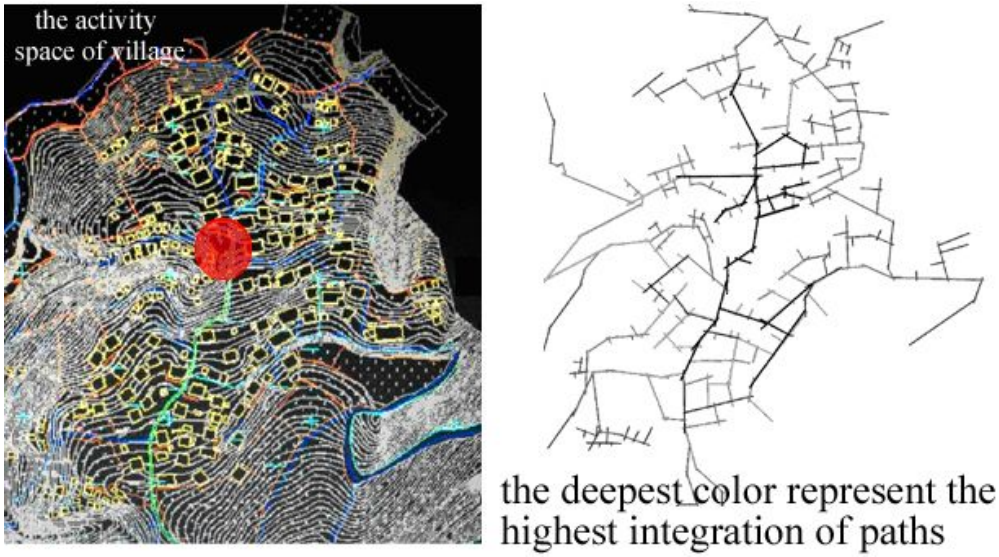


Fig.b Space configuration of path imagery elements in Biasha Zaigexin village

Fig.c Landscape space of Biasha Lao village

Fig.d The main rally space of Biasha village on the main path (the red pot in fig.a and b)
Fig.4-8 Space configuration of road imagery elements in Biasha village

The path branches aggregate the buildings scattering along the mountains, and the connection value also changes, which is a characteristic of hiding or revealing image space of settlement landscape. When comparing the space syntax quantitative data of the two villages, as shown in (Tab. 4-7), the path integration level of village Lao is higher, which shows stronger integrality of the building space layout and higher relevance degree between buildings, and the buildings are mainly in centralized layout with high similarity. While in configuration analysis of village Zaigexin, the average depth value of axis is higher, and this means low accessibility and low relevance degree between buildings. We can also find through the plan that if the path network in a human settlement is deep, the building layout will be loose, with low recognizability. Therefore, in space syntactic parsing, the spatial configuration of path network is the same as landscape tectonic image, and we can analyze the differences in perception of landscape image from the aspect of regional integrity.

Tab.4-7 The space syntax quantitative data of Basha Miao village Lao and b

	Number of Axis	Overall Integration Level	Average Connection Value	Average Depth Value	Partial Integration Level
Village a	292	0.580384	2.50838	11.1625	1.51155
Village b	358	0.524814	2.36575	12.885	1.45441

4.3.3.2 **Node of accessibility**

The image node of traditional architectural landscape is the space connection point generated with the construction as subject, which connects the landscape element into an organic whole with identification charateristics and can be experienced by subjectivity. The main centralized node presents a kind of strong visual feature to give people deep image. [108] Node has the function of gathering and explaining the overall meaning of landscape, which is easy to generate strong image experience.

The drum tower in Dong minority' settlement in the valley is compared to the illusion of clan leader's dominion. Use the space syntax to analyze the space configuration of Dong village, (Fig. 4-9) the axis integration level near drum tower square in Fig. a is the highest, illustrating that it is the node in settlement space, which has the strongest accessibility. Fig. b is the space composition analysis, illustrating that drum tower is the center of settlement region composition, also the site centralized by field of vision and behavior. The construction function and form of drum tower in Dong village in Fig. c is totally different from other residence, which is the landmark point of the highest level in building standard. The social attribute of drum tower gathers the multiple cultural functions in settlements, such as gather to discuss official business, celebration and defense, etc. It is not only the center of space configuration, the diverging center of path network jointly composed of path elements, the controlling node of open public, but also the core of settlement ruling culture. It illustrates that the configuration relationship presents the landscape concept and cultural characteristics.

[108] Zhu Qing, Wang Jingwen, Li Yuan, *The space syntax of urban space image, Huazhong Architecture*, 2005,vol 4,p.47

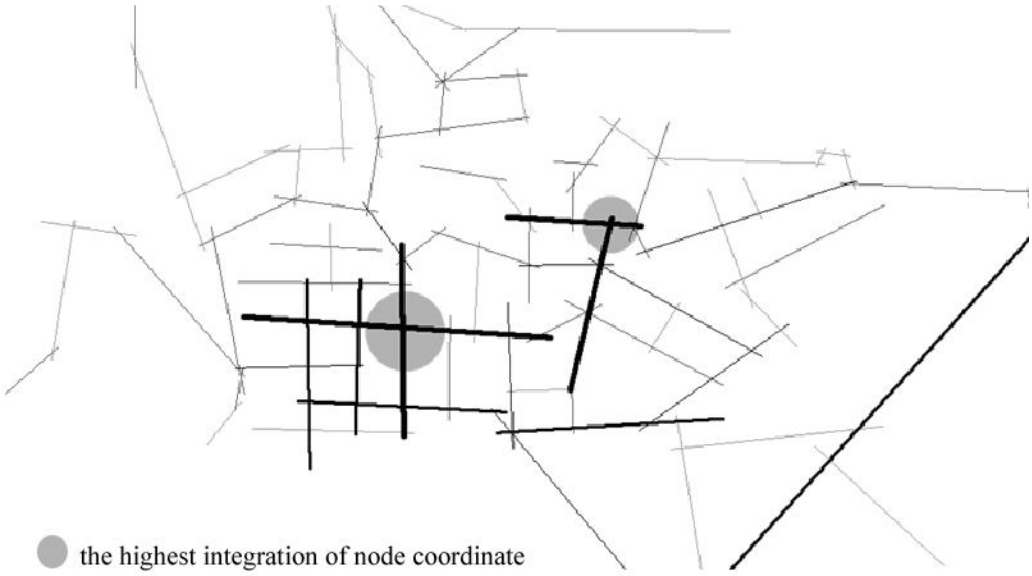


Fig.a Space configuration of node imagery elements in Dong village (1730 *A.D.*)

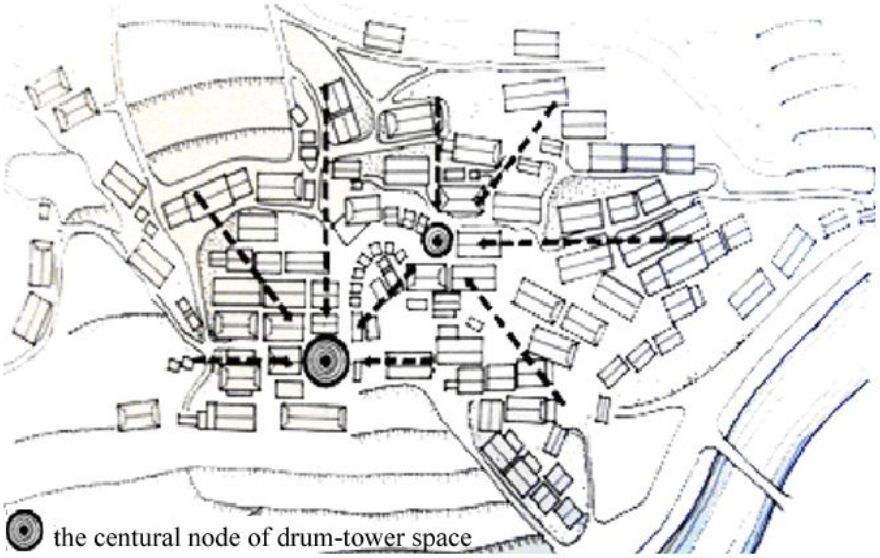


Fig.b The node of drum-tower space plane in Dong village

Fig.c The main rally space of drum-tower in Dong village
Fig.4-9 The gathering configuration of the node in Biasha village

According to tectonic concept, central architectural space is the materialization entity of etiquette culture, also the main carrying medium of concentration of power culture. Taking the landscape space of the Summer Palace as an example, through the architectural space configuration analysis (Fig. 4-10), in Fig. a the architectural space of Foxiang Pavilion which locates at the absolute center in landscape construction, is within the scope of the axis with the highest integration level, illustrating that the *r*ecognizability of the path around the node space of Foxiang Pavilion is the highest and the accessibility is the strongest. In Fig. b, the spatial road coordinate point of Foxiang Pavilion is the point with high partial integration level and overall integration level, illustrating that the enclosed node space is the most featured and has the strongest *r*ecognizability. According to the space tectonic concept, in Fig. c, the node of Foxiang Pavilion generated by path cross has the strongest feature, also the important node most easy to reach. Foxiang Pavilion is the central landscape of the overall architectural space in the Summer Palace, also the path intersection with the strongest accessibility of people's behavior in front mountain because the directivity of path and presentation level of culture is the strongest. This conforms to the cultural characteristics combined Confucianism, etiquette and Buddhism together of node space of Foxiang Pavilion, which is the most explicit image space cognitive node reflecting the etiquette environment and Pure Land archetype image in front mountain scenic spot and entire space region of the Summer Palace.

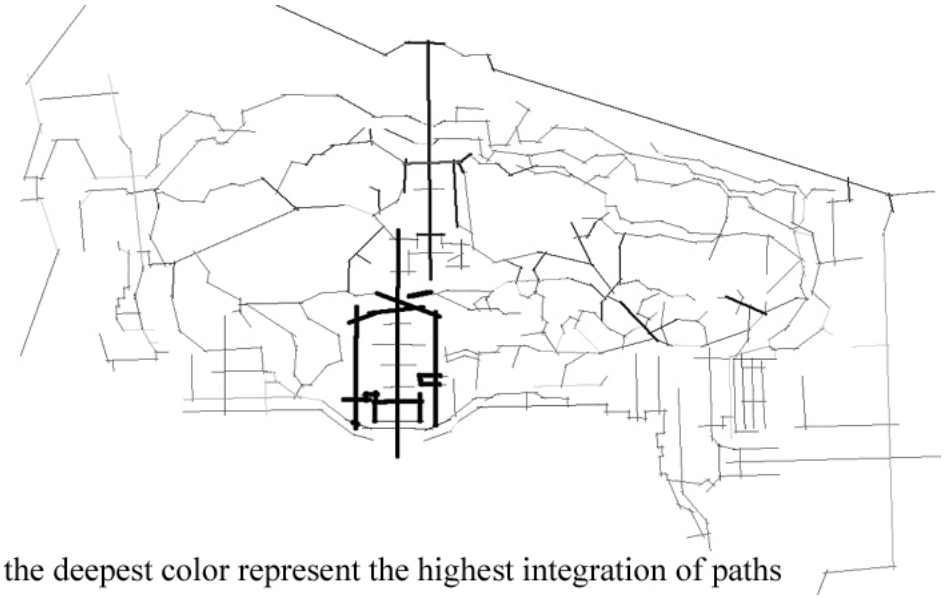


Fig.a Space configuration of paths in Summer Palace

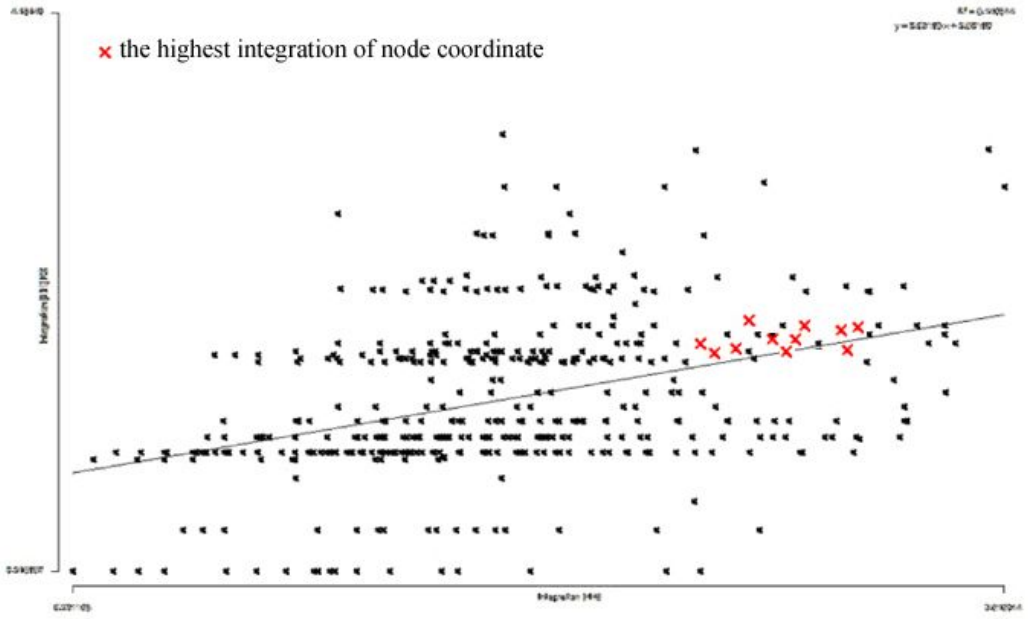


Fig.b Coordinate of paths in Summer Palace

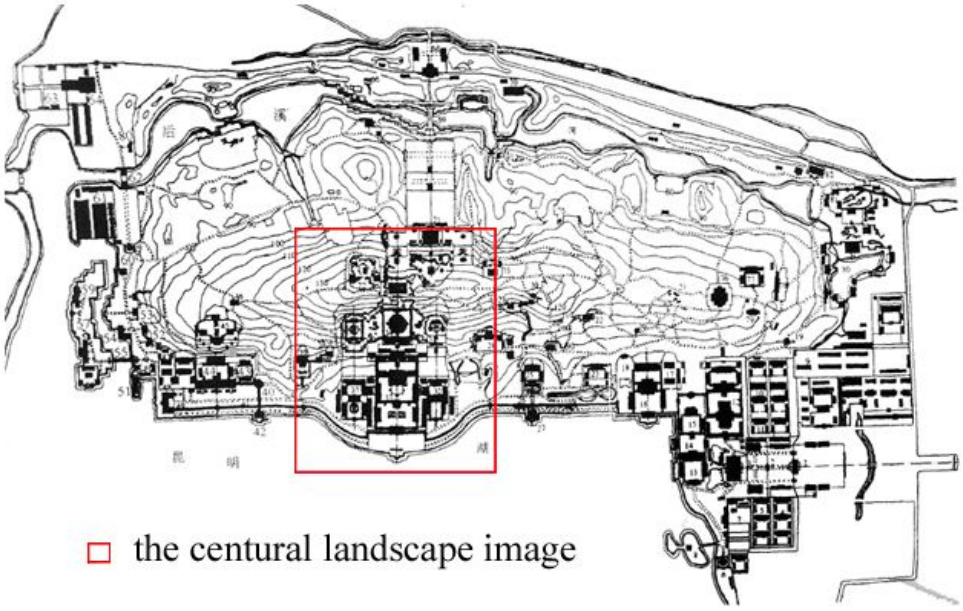


Fig.c The centural node of Summer Palace

Fig.d The node space of Foxiang Palace

Fig.4-10 Space configuration of node in Summer Palace

The landscape space includes many nodes, through the analysis of configuration relationship, node integration level and identification level all have difference, in which, the node with the highest integration level is the fragment with the strongest accessibility. According to the landscape tectonic concept, the node with the highest integration level is the center of landscape culture, also the strongest element of image perception.

4.3.3.3 **Identifiability Landmark**

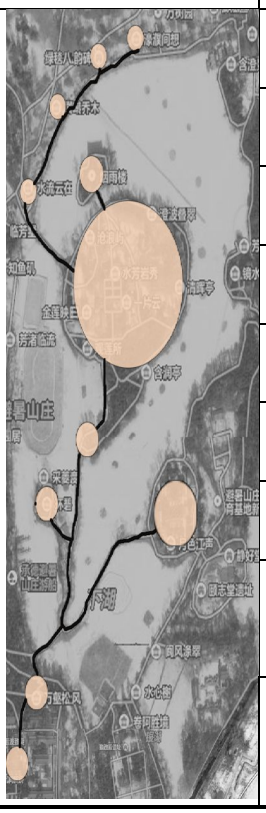
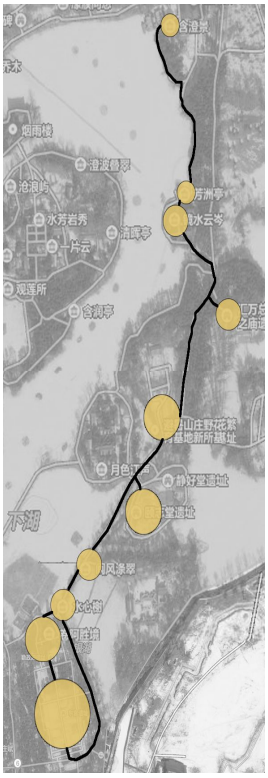
"Landmark refers to those entity reference substance with distinctive morphological characteristics and high visibility."[109] As for objective representation space of traditional architectural landscape, the landmark is the construction with entity, unique form and landscape core culture, which is usually in the node space with the highest integration level and identifiability, including located at the landmark or solely existed in nature. It forms the independent occupation and absolute identifiability for space, mostly located at the place with strong visuality which is easy to concentrate sight, being the most identifiable and impressive image configuration element; or in the group architectural landscape, located at the controlling node construction, which is different from other configuration space in the region, being the concentrated presentation of landscape cultural characteristics.

Emperor Kangxi's Summer Mountain Resort in Chengde uses building as the space connection of each node for main landscape during the landscape construction process. It is the presentation of different landscape concepts, and the changing and

[109] Lin Yulian, Hu Zhengfan, *Environmental Psychology*, Beijing: China Building Industry Press, 2000,p.34-35

combining landscape viewing paths are formed by the alternate group and monomer space. In which, the lake area is the node space for connection with three landscape axises of middle, east and west. The constructions are arranged by extension, opened and closed with appropriate degree while the interest and charm are different. The middle axis starts from Wanhe Songfeng, passing by Yuese Jiangsheng and ends at Qinglian Island; east axis starts from East Palace and the viewing pavilion is the landscape node. (Tab. 4-8)

Tab.4-8 The landmark space of Chengde Mountain Resort architectural landscape

Landmark Spatial Series	Function Landmark	Landmark Relevance Space of Middle Landscape Axis in Lake Area	Function Landmark	Landmark Relevance Space of East Landscape Axis in Lake Area
Landscape Node	Viewing Pavilion		Viewing Pavilion	
Expatiation	Yanyu Pavilion		Pagoda	
Connection	Bridge		Embankment, Bridge	
Narration	Palace Complex		Jinshan Temple	
Connection	Embankment		Pavilion at Corridor	
Middle Landscape	Shangyue Pavilion		Lion Grove Garden	
Connection	Embankment		Waterside Pavilion	
Starting Landscape	Huilang Pavilion at Palace		Pavilion at Palace	
Preface	Zhaiyuan Pavilion		East Palace	

Use space syntax to analyze the path integration level of Summer Mountain Resort, in which the middle axis and east axis have the highest integration. Thus, the path intersection of the axis is the node, see Fig. a-b, configuration analysis conforms to tectonic concept, in which the construction of landscape subjectivity becomes the landmark. The landmark among all nodes has the corresponding relevance and primary and secondary contrast. In the space constructed by group architecture, the landmark is always the highest specification and grade, the

architectural monomer or courtyard mostly features landscape culture. Architecture with different styles becomes the landscape subject, and the characteristics of architectural space such as grade, scale and form are combined with natural environment, thus the entity representation of landscape culture is formed,see Fig.c-e. (Fig. 4-11)

Fig.a Space configuration of paths in Chengde Mountain Resort (1730 *A.D.*)

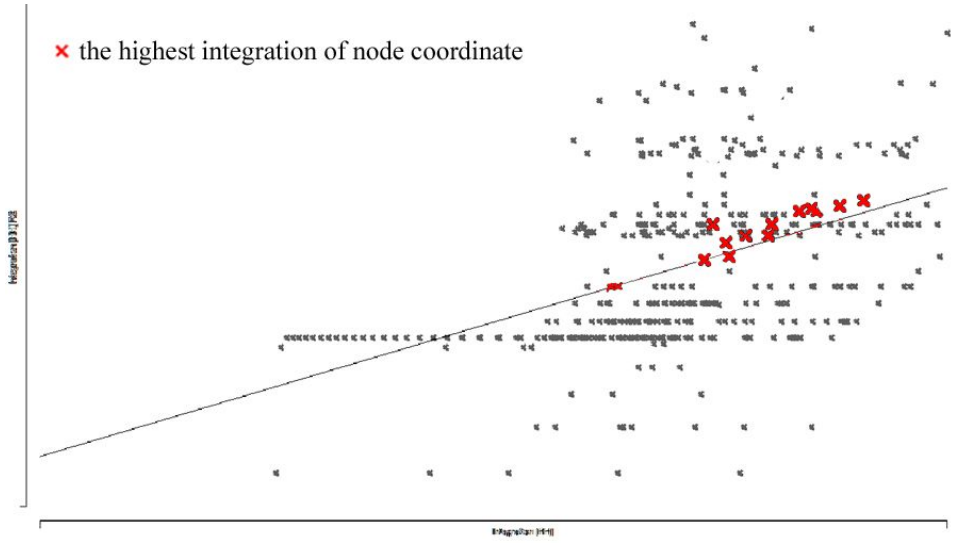


Fig.b Coordinate of paths in Chengde Mountain Resort

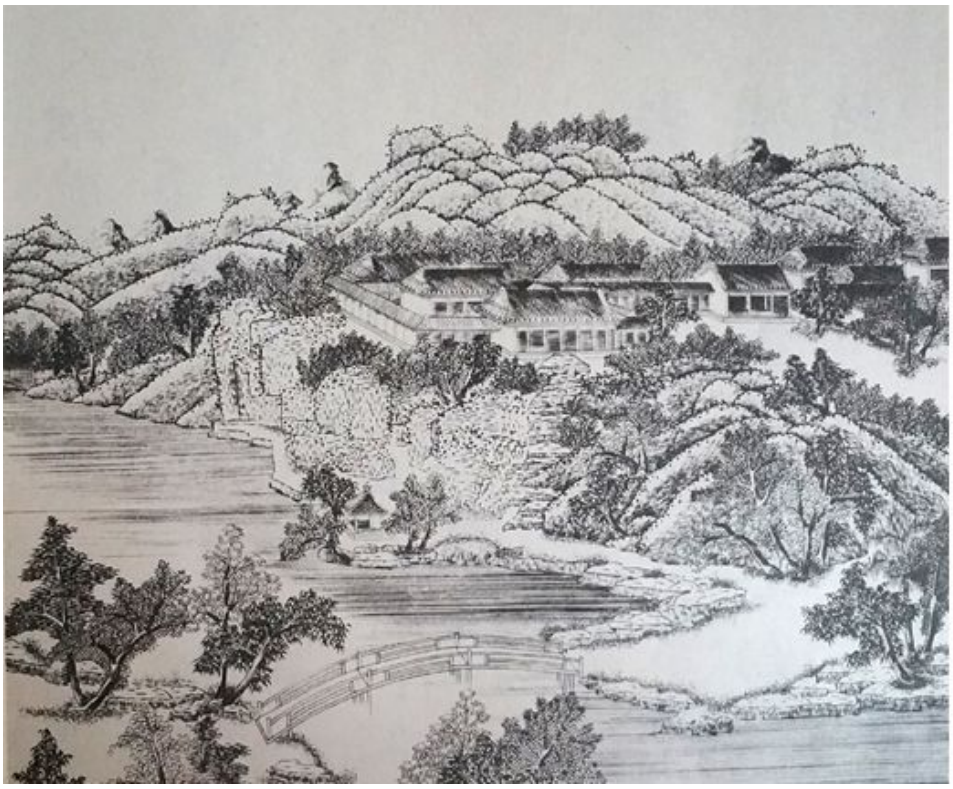


Fig.c The landsmark of “Wanhesongfeng” in corn node of the eastern path

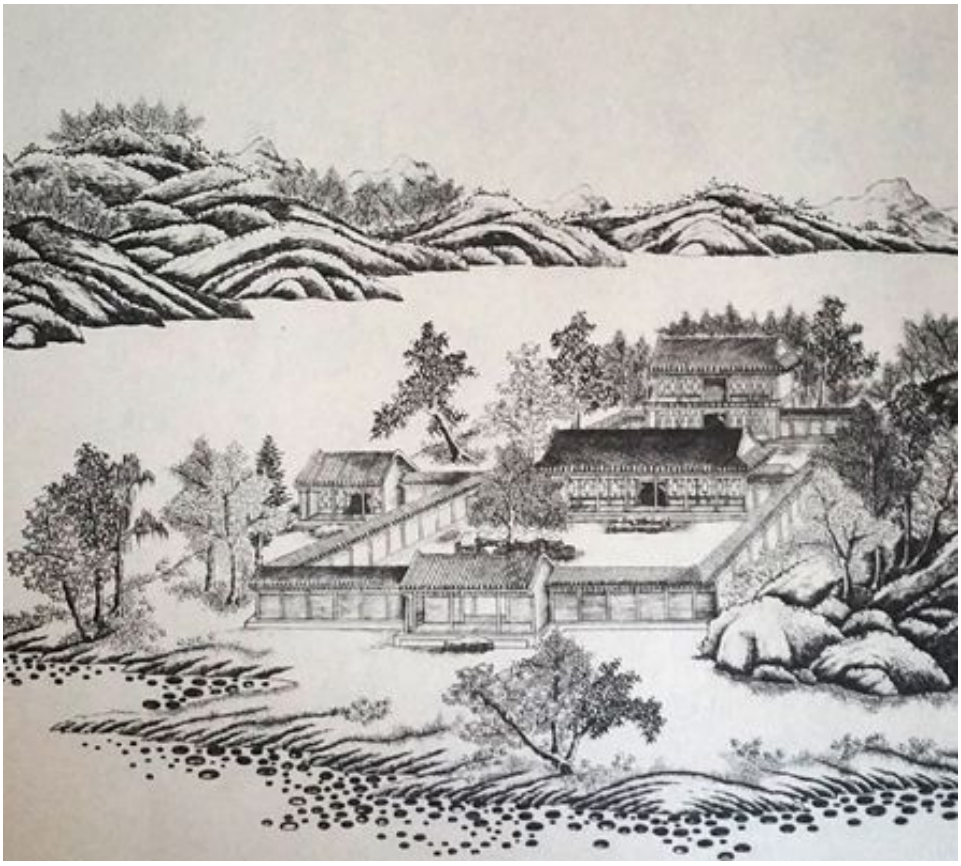


Fig.d The landsmark of “Zhijingyunti” in the corn node of the main and east path

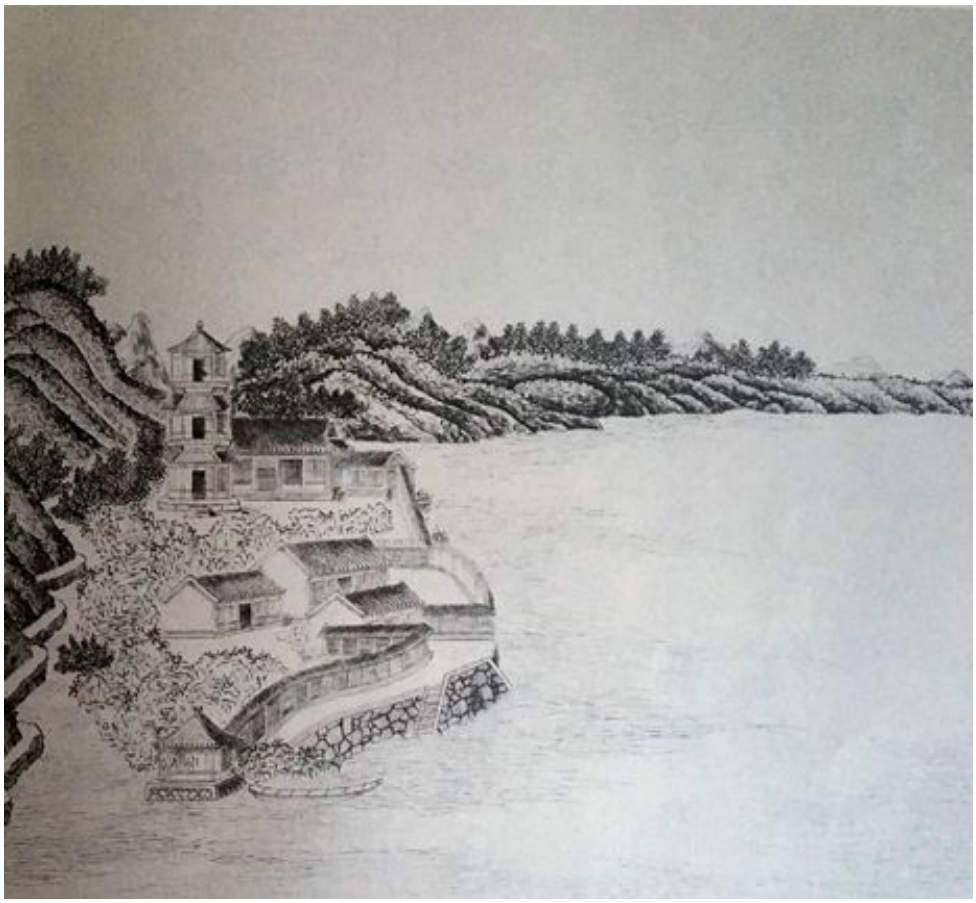


Fig.e The landsmark of “Jingshuiyuncen” in corn node of the eastern path
Fig. 4-12 The landmark in the corn node of the main and eastern path

4.4 Spatial implication transmission of landscape objective representation

Traditional architectural landscape objective representation is the entity space representation for landscape mental representation with the traditional cultural gene and explicit cultural orientation and characteristics. Through the types and configuration relationship of cognitive elements, the space of objective representation has the characteristics of implication transmission by diagram form, which integrates the mental representation, space configuration and landscape image cognitive elements into complete landscape information and use the space to refer to myths, legends, historical allusions, religious faiths and secular spirit to convey the landscape implication.

4.4.1 Basic vocabulary

C·Alexander believes that: "Vocabulary refers to culture and forms a cultural system. The unique and distinct vocabulary with specific individual characteristics is contained in society and becomes a complete dynamic object." [110] This kind of language is the entity expression under the effect of historical culture, which is the result perceived by people. Therefore, the traditional architectural landscape with cognitive elements is not only the vocabulary of form, but also the vocabulary of culture because of the implication transmission, of which the symbolic significance of landscape space is perceived.

The metaphorical culture of architectural landscape node is presented by space configuration quantification, composed of natural and architectural factors to represent landscape concept and arouse the emotion and connotation association of subjectivity to landscape space. The objective representation of settlement landscape is the vocabulary coreference of landscape space inherited by different ethnicities and gens, also the symbol of gens' custom associating with subjective emotion.

The space of objective representation for sacrifice etiquette landscape forms the vocabulary of bless, supreme, human and nature harmony because of the fengshan (grand ceremony of emperor's worship of heaven on mountain top to pray peace and prosperity) behavior. The Emperor Wu of Han Dynasty, Liu Che conducted fengshan on Mount Tai for eight times successively. Emperor Qianlong conducted fengshan on Mount Tai for ten times successively. Therefore fengshan on Mount Tai is not only an emperor's behavior but also a reverence to Mount Tai. It is a symbol of imperial identity which forms the unitary etiquette vocabulary. (Tab. 4-9)

Tab. 4-11 The generative process of vocabulary of fengshan on Mount Tai

Dynasty	Emperor	Specific time	Site of worship and sacrifice
The Qin Dynasty	Ying Zheng, the First Emperor	28th year of Shihuang (219 B.C.)	Worship at Mount Tai, sacrifice at Mount Liangfu
	Ying Huhai, the Second Emperor	1st year of Ershi (209 B.C.)	Worship at Mount Tai
The Western Han Dynasty	Liu Che, the Emperor Wu	1st year of Yuanfeng (110 B.C.)	Worship at Mount Tai, sacrifice at Mount Suran
		2nd year of Yuanfeng (109 B.C.)	Worship at Mount Tai, sacrifice at Mingtang
		5th year of Yuanfeng (106 B.C.)	Worship at Mount Tai, sacrifice at Mingtang
		1sgt year of Taichu (104 B.C.)	Worship at Mount Tai, sacrifice at Mount Haoli

		3rd year of Taichu (102 B.C.)	Worship at Mount Tai, sacrifice at Mount Shilv
		3rd year of Tianhan (98 B.C.)	Worship at Mount Tai, sacrifice at Mingtang
		4th year of Taishi (93 B.C.)	Worship at Mount Tai, sacrifice at Mount Shilv
		4th year of Zhenghe (89 B.C.)	Worship at Mount Tai, sacrifice at Mount Shilv
The Eastern Han Dynasty	Liu Xiu, the Emperor Guangwu	32nd year of Jianwu (56 A.D.)	Worship at Mount Tai, sacrifice at Mount Liangfu
	Liu Da, the Emperor Zhang	2nd year of Yuanhe (85 A.D.)	Worship at Mount Tai by lighting firewood, sacrifice at Mingtang
	Liu Hu, the Emperor An	3rd year of Yanguang (124 A.D.)	Worship at Mount Tai by lighting firewood, sacrifice at Mingtang
The Sui Dynasty	Yang Jian, the Emperor Wen	15th year of Kaihuang (595 A.D.)	Altar be set up at Mount Tai for worship ceremony
The Tang Dynasty	Li Zhi, the Emperor Gaozong	1st year of Qianfeng (666 A.D.)	Worship at Mount Tai, sacrifice at Mount Sheshou
	Li Longji, the Emperor Xuanzong	13rd year of Kaiyuan (725 A.D.)	Worship at Mount Tai, sacrifice at Mount Sheshou
The Song Dynasty	Zhao Heng, the Emperor Zhenzong	1st year of Dazhong Xiangfu (1008 A.D.)	Worship at Mount Tai, sacrifice at Mount Sheshou
The Qing Dynasty	Aisin-Gioro Xuanye, the Emperor Shengzu	23rd year of Kangxi (1684 A.D.)	Sacrifice at Mount Tai
		42nd year of Kangxi (1703 A.D.)	Sacrifice at Mount Tai
	Aisin-Gioro Hongli, the Emperor Gaozong	13rd year of Qianlong (1748 A.D.) to 55th year of Qianlong (1790 A.D.)	Sacrifice at Mount Tai for ten times

4.4.2 Vocabulary rhetoric

Compared with spatial scale, the combination of limited architecture and unlimited landscape matrix forms rhetoric mode such as metaphor, leaving blank, repeatability, contrast and coreference, which makes people feel different emotions, thoughts and details through landscape experience. Objective representation has

[110]Christopher A, Sara I, *A Pattern Language: Towns, Buildings, Construction*, Oxford University Press, 1977

become a visual and sensed object with virtuality and reality.

Metaphor is a unique way to express relationship of things vividly in literature. Based on imagery thinking technique, metaphor converts objects or things can be felt into abstract meanings. Subject associates once effective mind through objects at present by the way of metaphor based on landscape concept generated from traditional culture. Nanjing (a county in Fujian Province, China) Huang's family settlement group is composed of five earthen buildings with the rectangle earthen building as the center which is surrounded by four round earthen buildings. The central earthen building is compared to supreme leader of the clansman with its exclusive shape and structure, while round earthen buildings which are compared to relationship of family marriage symbolize peaceful coexistence of clansman with its unified shape and structure. (Fig. 4-13)

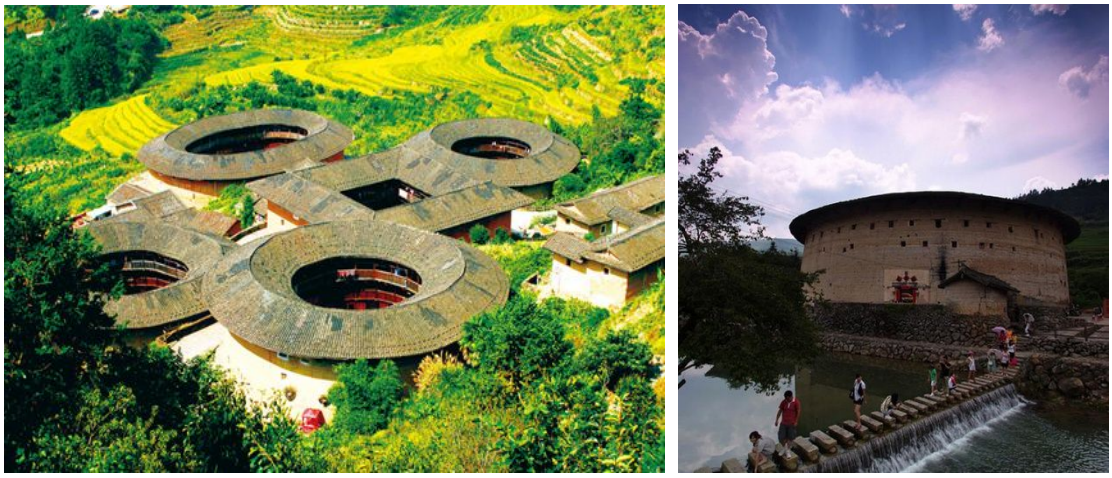


Fig.a The outside construction (507 *A.D.*) [111]

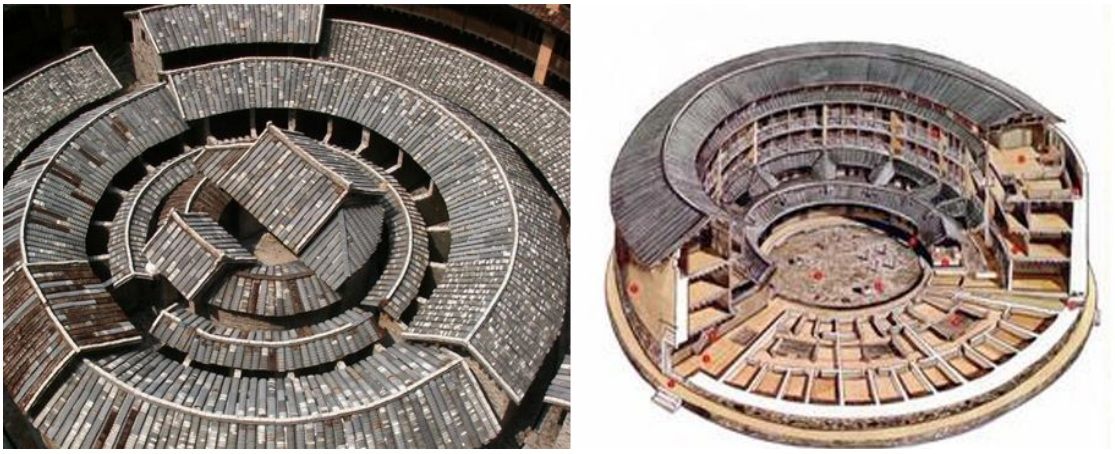


Fig.b The inside construction (1875 *A.D.*)

Fig.4-13 Tulou architectural landscape which metaphor faith

[111] Wang Junzai, *The space content of traditional settlement construction*, China Architecture & Building Press，2009,p.156

"Leaving blank", which is applied extensively to studying fields of Chinese painting, china, garden and poems, etc., is one of the important expression techniques of traditional Chinese art. Mountains and rivers which offer broad background for architectural landscape form unlimited imagination and experience combined with moderately limited constructed architectural landscape subject space. Leaving blank makes the vocabulary exceed the limitation of space via the combination of vocabulary content being strengthened by architectural landscape space and distant pure natural landscape. It also forms the field of perception and put landscape into a unique charm of aftertaste and association. Architecture forms landscape leaving blank's representation of disappearing and reappearing, movement and motionlessness through the fusion of remote and present landscape natural space with lofts without shelf fans surrounded, veranda without windows and pavilions with ceiling while without wall, as well as the combination of cultural vocabulary with virtuality and reality. (Fig. 4-14) Being continuously extended into water, pavilion connects with landscape and integrates into space by delicate transparent pattern naturally.

Fig.a The memorial temple of Quyuan (820 *A.D.*)

Fig.b The Pavilion of Heilong River [112]

Fig.4-14 Tu Leaving blank of architectural landscape

Traditional architectural landscape generating contrastive landscape representation by combination of artificial culture constructed by building and natural artistic vocabulary forms space characters of either comparison of virtuality and actuality. It makes visual and actual images unite or remoteness that represents space characters of human, land and heaven's relations, delivers abundant atmosphere and joy of landscape. Each view from the ten views of the West Lake generates landscapes with each other while they were designed separately. The Leifeng Pagoda of Xizhao Mountain and the Baochu Tower of the Baoshi Mountain separated by lake's opposite banks present spatial pattern of one lake reflecting two towers; the Solitary Hill, the Bai Causeway, the Su Causeway and the Yanggong Causeway partitioning the lake can be opposite scenery; fairyland landscape of Xiaoying Island generates opposite landscape with the Penglai Pavilion of the Solitary Hill, representing fairyland vocabulary together. The contrastive representation of borrowing landscape and opposite landscape extends landscape space and forms integral landscape implication with relevance of objective representation space vocabulary. (Fig. 4-15)

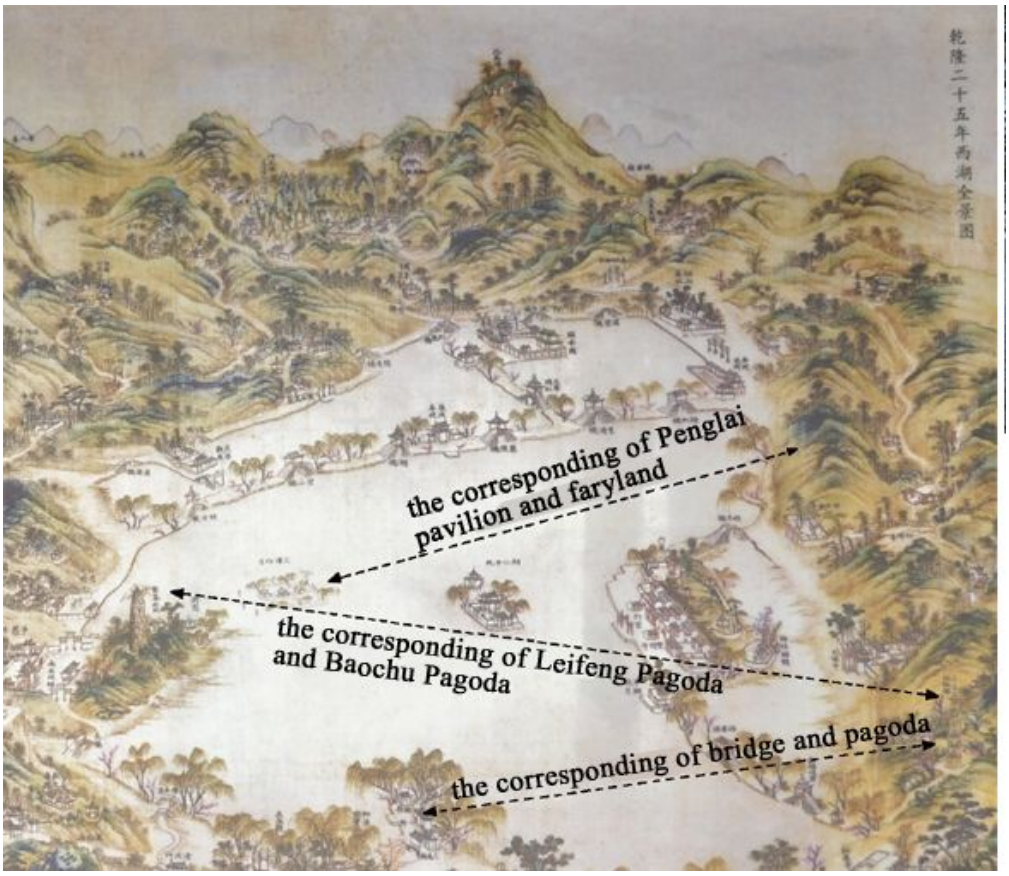


Fig.a The relation of landscape node in West Lake (Song Dynasty.)

Fig.b The relation of architactural space in West Lake (Song Dynasty.)
Fig.4-15 Representation of the Contrastive scenery with each other

4.4.3 Synergetic transmission comprehension

The implication transmission of landscape objective representation space is the structural relationship of expression——transmission——experience generated among landscape constructor, objective representation space and experiencer through the dual structure of coding and decoding. Landscape constructor is the creator of landscape, who forms landscape image thought according to landscape simulation consciousness and landscape concept in tectonic thought; objective representation is derived into specific space type according to landscape concept and represents landscape to convey image thought; experiencer generates cognition to objective representation space, forms spatial cognition image element which is converted into vocabulary rhetoric conveying implication to refer to landscape culture through configuration relationship. Thus, the actual landscape objective representation entity combined with image thought concept forms spatial implication transmission structure of objective representation, which makes the objective representation space become the implication transmission medium of dual thought containing landscape construction and landscape viewing, therefore, landscape implication is formed.

In the book *The Meaning of the Building Environment,* Amos Rapoport summarizes the coding and decoding of environment information as the following structure: traditional environment: code schema→present by coding→environment established→decoding→understanding: code schema→behavior, concept. [113] Landscape coding combines culture and landscape entity and after this process is formed, through behavioral outcome such as praising poems, painting, travel notes or inscription on hearstone after traveled by subjectivity, more codings are attached in the landscape. On the basis of original coding, multiple subjective thought and image cognition are mixed together, the process of repeating dual coding and decoding constantly is formed, i.e. the dual structure of landscape spatial implication transmission. Such image cognition breaks up objective representation space into different elements. As the space configuration relationship makes the

objective representation space have the characteristics of transmitting implication, i.e. converting the coding of tectonic image into the decoding of perceived image, the landscape presents characteristics of transmitting implication through specific cultural vocabulary and the mutually combined rhetorical structure. The space of landscape objective representation conveys the time series of culture development, which not only has the transition of cultural concept but also the

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[112] Christopher A, Sara I, *A Pattern Language: Towns, Buildings*, Construction, Oxford University Press, 1977

mixture of tectonic thought. Through the representation of synchronicity and the establishment of time sequence, it becomes the superposition and conformity of landscape culture fragment and forms the overall implication atmosphere of landscape.

[113] Amos Rapoport, *The Meaning of the Building Environment: A Nonverbal Communication Approach*, University of Arizona Press ,2003,p.184.

Chapter 5 Perception and Assessment of Traditional Architectural Landscape Implication

Landscape implication generates from spatial implication transmission of traditional architectural landscape objective representation. Through subjective perception, tectonic image transfers to perceived image assessment. Such assessment of perceived image is the result of interaction between human and environment, it is on the basis of visual environment and affected by behaviors, sense, psychology, culture, management and regulations, etc., and is a social topic. [114] The object of perceived image assessment is formed based on implication perception, and according to the assessment standard, people analyze the attribute and relation of perception factors subjectively through quantification of perception of the object and build perceived image assessment system. The result has its limitations but may be used to interpret subjective psychological cognition when meeting certain standards, and is of important theoretical and actual application value. The study of perceived image assessment formed based on landscape implication is to compare and analyze its relevance to tectonic image through people's cognition, and therefore establish the landscape image study system and express the cultural inheritance and value of traditional architectural landscape.

5.1 Perception structure of landscape implication

The process of human's sense of landscape is discussed through nature of landscape. The difference in sense and degree is quantized abstractly, and reveals the natural elements of such sense and their relations. [115] Based on the traits of objective representation cognition and communication of traditional architectural landscape, landscape has its unique implication, viewing behavior in combination of move and still, as well as different cognition from sense and consciousness. It constitutes the perception structure of landscape implication, serves as the material and atmosphere basis of generation of perceived image, and reflects the morphological characteristic and cultural meaning of landscape at the aspect of perception.

5.1.1 Perception level

Traditional architectural landscape implication has different perception levels. The archetype image allows people to sense specific cultural identity of landscape, and the objective representation space allows people to form their subjective perception through the objectively existing subject. People hold different

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[114] Daniel T, WitherC, *Scenie Beauty: Visual Landscape Quality Assessmentinthe 21st century, Landscape and Urban Planning*, 2011,vol(5), p.54

[115] E Kramer, S W Vince. *Landscape assessment, Development & Perspectives of Landscape Ecolog,* 2005, vol(1) p.1733

understandings on perception of landscape implication, as well as different esthetic and philosophical conceptions on traditional architectural landscape.

Archetype image of landscape is the concept of construction of traditional architectural landscape, and subjective responsive chord to the ideal thought of landscape image produces through objective representation space. People today perceive the archetype image through landscape implication, they may resonate with the tectonic concept or sense differently, and therefore form different perceived image assessment, which is the value and meaning of existence of landscape. When viewing the landscape, people always get their perception from their hearts. The atmosphere of landscape will develop to mental image after subjective perception, people combine their emotion with landscape implication to produce the superficial mental perception, [116] and superficial perception is generated from unique atmosphere of tectonic concept of every landscape, so is people's deep feeling of landscape cultural traits, thus forming different contents and levels of perceived image.

5.1.2 Perception behavior

Landscape implication perception draws individual information with recognizability and impressiveness through "sensation", with the going of path and change of sight, the angle of information sense becomes different; "consciousness" produces different results of information processing.[117] In perception behavior of architectural landscape implication, the image generated from far-seeing, close appreciation and deep sense of the architecture is coherent and gradually strengthening. People's mentality is subjective reflection hard to be explored, but through the viewing behavior and angle, we can further analyze the psychological changes of a subject, including information processing of dynamic perception and static perception.

Dynamic perception is a dynamic viewing of the architectural landscape. Due to differences in space and size, people can only sense the atmosphere of landscape space from different angles when they are in different visions. Because of the cultural uniqueness of landscape implication, space construction will present this unique trait, therefore, the architectural landscape takes on progressive and unified implication no matter it is along the path of architectural design or in a new path.

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[116] Cao Kun, Fu Wenqi, *Image map in map spatial cognition, Surveying and mapping of geology and mineral resources*, 2011, vol(01),p.5-7

[117] A M Carvalho, A Frazaomoreira, M T Ramos. *Connecting landscape conservation and management with traditional ecological knowledge: does it matter how people perceive landscape and naturep*, 2010

(Fig. 5-1) Static perception is in a fixed viewing location and between the nodes of dynamic perception. It is decided by the depth of subjective sense, object information with the strongest stimulation is the mainly selected and studied point in image survey, and thus the deepest sense can be acquired.

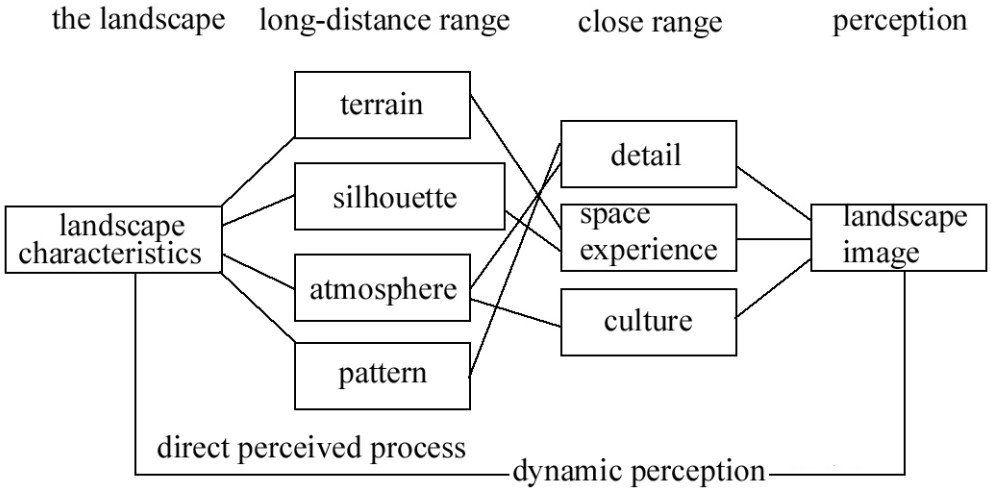

Fig.5-1 The viewing process of dynamic perception

5.1.3 Perception process

Landscape implication is formed from a subject's perception on an object. It is explained in *Analytical Dictionary of Characters* that "sensation is touching of the heart", which is the thought and feeling coming from influence of external objects; and it is written in *Jade Articles* that "consciousness is understanding", which refers to understanding of the development or trait of an object. Psychologists have made distinction to the process of seeking environmental stimulation and the process of interpreting environmental stimulation. They think sensation is human's sense of simple stimulation from surface appearance of an object such as sound and color, and it is the reflection on relatively simple activities. [116] While consciousness is more important in perception of environment, it is a more complex process and is human's processing, integrating and interpreting of more complex and meaningful stimulations in daily life. [118] Therefore, "consciousness" is formed based on "sensation". Subject "sensation" will be different with the change of sense path and behavior path in the landscape, and "consciousness" generated in the same landscape will be different, thus forming the process of perception.

Sense is produced from function of sense organs. There are mainly senses of vision, auditory, touch and smell, and for sense of landscape, information acquired

from vision is more than that of the total of other three senses.[119] Sense comes from the process of environment—stimulation, and then people forms assessment through the process of stimulation—consciousness and finish the process of landscape implication perception. Therefore, consciousness is the process of information processing, it is a major part of model construction and also the source of subjective background survey. People all have an information repository, being similar or different. When the information obtained and that stored overlap or are similar, people will grasp relevant information and arouse their potential acknowledgement, and get their cognition result with recognition and impression. That's why for the majority of people traditional architectural landscape implication is the mostly well perceived, and it also becomes a component of landscape image cognition factors. Of course, the subjective acknowledgement aroused, which may be with recognition and impression, or with no image or sense, can all be the results of landscape implication perception, and therefore forms the assessment of perceived image.

5.2 Medium of landscape implication perception

Landscape implication perception, based on the image cognition factors of objective representation space and the space atmosphere, forms perception medium by its material and immaterial factor. It is the basis of presentation of tectonic image and forming of perceived image, which may take on certain meaning separately or express the landscape through mutual influence. In the tectonic process, through mutual combination of these factors, people produce image carrier with symbolic significance and emotion. According to the image perception factors and atmosphere of objective representation, people abstract the factors of tectonic image and build the landscape perceived image assessment model based on the relation between implication and perception. Through comprehensive qualitative analysis of landscape implication perception, we abstract natural factors, artificial architecture

factors and cultural factors as the perception medium. (Tab. 5-1) is component part of landscape cognition factors and cultural atmosphere, and represents the landscape concept and cultural trait of tectonic image.

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[118] Paul Bell, *Environmental Psychology*. China Renmin University Press, 2009, p. 57-61

[119] E Edwards, *Visual Sense*, Berg Publishers, 2008, p.45

Tab. 5-1 The perceived mediums of traditonal architectural landscape implication

Category	Type of factors	Main content and effect
Nature	1 terrain of mountain and river	base of landscape and limit the space form
	2 species of plants	natural definition and special meaning
	3 seasonal characteristics of plants	nature form and symbolize feeling
	4 meteorological phenomena	rain, fog and sown etc.symbolize unique atmosphere
	5 natural light	form unique bright and shadow effect
	6 natural sound	delighted feeling from hearing
Architecture	1 architectural founction and type	the type and style reflect the architectural culture
	2 architectural outside interface	the formation of architecture reflects the different space structure and the unique cultural habit
	3 plaque and stone tablet	commemorate the cultural meaning
	4 artificial sound	stress unique atmosphere from hearing and reflect the specified cultural atmosphere
History and culture	1 myths and historical stories	cultural record influences people feeling
	2 religious belief	specified corn culture inherits thousand year

5.2.1 Natural factor

Based on the material level of the landscape implication, and through different subjective perception, form the natural factors. They are the environmental background, or the matrix of existence, or the random load factor in the material space. They are the source of the consciousness to get close to the landscape.

5.2.1.1 **Landscape terrain factor**

Mountain and water are the fixed existence matrixes of the architectural landscape. Our country is a country with complex natural environment. Numerous Mountains and hills with crisscrossed drainage are the natural base of landscape form constitution. Because of the impact of landscape culture, landscape becomes the imagery entity. The mountains either stand towering and straight which are perceived as dignified and steady, or stand swift and fierce which are perceived as perilous and lofty. The water consists of rivers and lakes. Some of them are broad and surging, some are narrow and gurgling, some are falling, while others are floating. According to the natural interest, landscape inspires the wisdom of structuring scene. And the landscape becomes the landscape image matrix factor which is signified by culture. (Fig. 5-2)

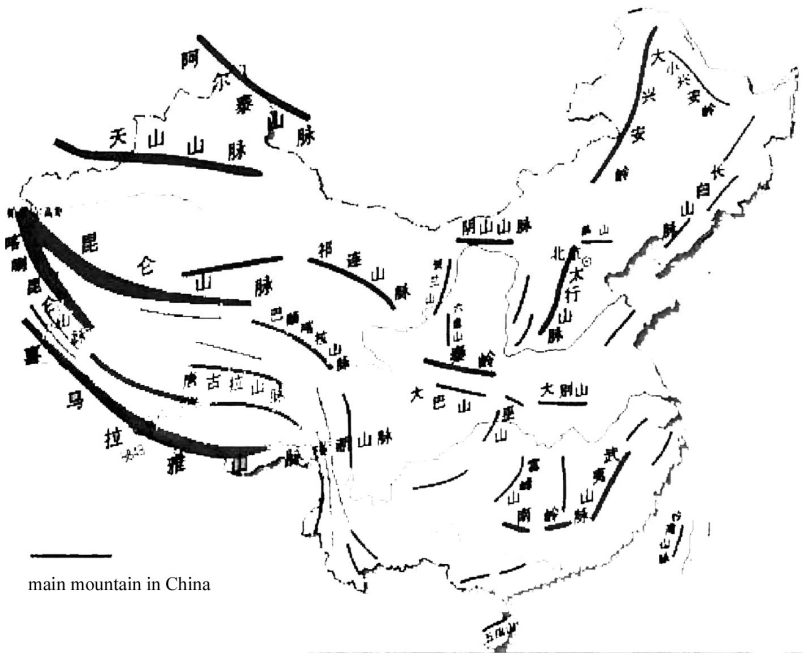

Fig.a The terrain map of main mountains in China

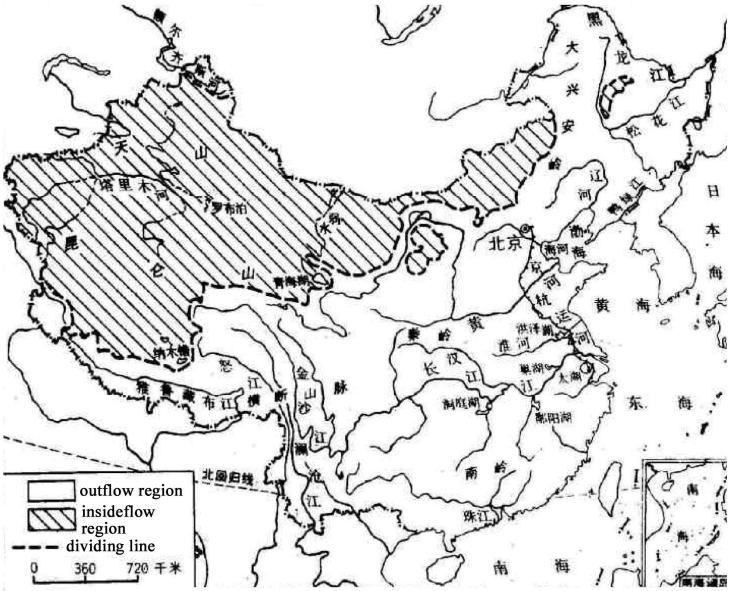

Fig.b The terrain map of main rivers in China

Fig.5-2 The terrain of mountains and river for landscape teconic

5.2.1.2 **Plant species**

Vegetation is the natural natural critter which comes into being with the landscape. It is different from the plant in classical gardens. Traditional architectural landscape emphasizes respecting the natural species and growth of the plant. According to different religious signification, temples choose different plants. The plum of blossom, orchid, bamboo, chrysanthemum are known as four gentlemen in Chinese culture. They are always the structuring scene plants used by

literati to express their emotions. Some temples are built in mountains with lush vegetation to create the winding and mystery perception. In front of the main hall of the Lingyin Temple, there are many camphor trees and the solemn atmosphere is therefore formed. (Fig. 5-3)

Fig.a The lotus means pure and elegant morality (Quyuanfenghe Nansong Dynasty)

Fig.b The camphor means solemn religious culture (Lingyin tample 326*A.D.)*

Fig.5-3 Species of plants of different landscape

5.2.1.3 **Characteristics of plants in four seasons**

Different geomorphic features are distributed with vegetational diversity. Various colors and forms occur in accordance with the changing season. The spring and summer are green and lush, the autumn is maple red, and the winter is either fallen or evergreen. People percept and express through various feelings thus indicating the imagination of the scenery. In the mausoleum, the hollies are commonly used to express the perpetuation of lives. The west bund in the Summer Palace is modeled on the construction of the Su Causeway of the West Lake with the fallen willows and colorful peach blossom in spring, constructing the beautiful sceneries in south area. (Fig. 5-4)Hermits use specific plants to indicate their will. Via the changing four seasons, they inform the changing emotions. The seasonal vitality gives the scenes specific image.

Fig.a The willow means Spring (Sudichunxiao 1090 *A.D.*)

Fig.b The green pine in winter means immortal spirit (The Ming Tombs 1409*A.D.-1630 A.D.)*

Fig.5-4 Seasonal characteristics of plants of different landscape

5.2.1.4 **Variation of weather**

Weather is the physical phenomenon of atmosphere. In the traditional society, people's cognition ability is limited. Thus the common meteorological phenomena today are seen as symbols of mythology at that time. The Yangtze River Delta in the misty rain looks like wonderland,see Fig.a. On the top of the mountains, the weather varies a lot. The higher the mountain is, the lower the temperature will be. Therefore, the water vapor in the air condenses into a mist-shrouded place, which is seen as the reappearance of the wonderland. Qiyunshan is named for its cloud reaching high peak. With the surrounding peaks, the unified whole echoed space is formed, see Fig.b. Overlooking the steps, it looks like reaching the heaven. Gazebos are set on the top of the mountains. In rainy days, it becomes the mist-shrouded natural wonders.(Fig.5-5)

Fig.a The moist landscape in Zhou village means romantic culture

Fig.b The foggy landscape of Taosim tample on Mount Jiuhua means mystical religious culture (756*A.D.)* [118]

Fig.5-5 Meteorological phenomena of different landscape

5.2.1.5 **Natural sunlight**

Natural sunlight adds different glow and brightness to the landscape. In addition, some landscapes are constructed based on the particular sunlight. The sunlight combines with the landscape and they become the metaphorical natural wonders. In Buddhism, the sun is metaphorically seen as the broad Buddha Dharma. It declares that the darkness of the world has been broken by the brightness. The light casted on the surface of the clouds causes the diffraction and diffuse reflection. The rays of light at the back of the temple in the mountain surrounded by the cloud is regarded as “Buddhist light shines throughout the universe”. The soft cold moon light combining with the landscape creates the feel of solitude and stillness. The Yuesejiangsheng Island in Emperor Kangxi's Summer Mountain Resort in Chengde is the royal place for enjoying the right full moon and studying in Kangxi and Qianlong period. When the moon climbs up the mountain, the surrounding architecture, mountain, and plants turn into the dark green backgrounds. Only the moon casts light on the surface of the lake, and the shadow turns into the scenery. While the barely-audible sound of water grows the tranquil feeling.

Fig.a The sunlight behind tamples on Mount Emei means Buddha illuminates of religious culture (401 *A.D.*)

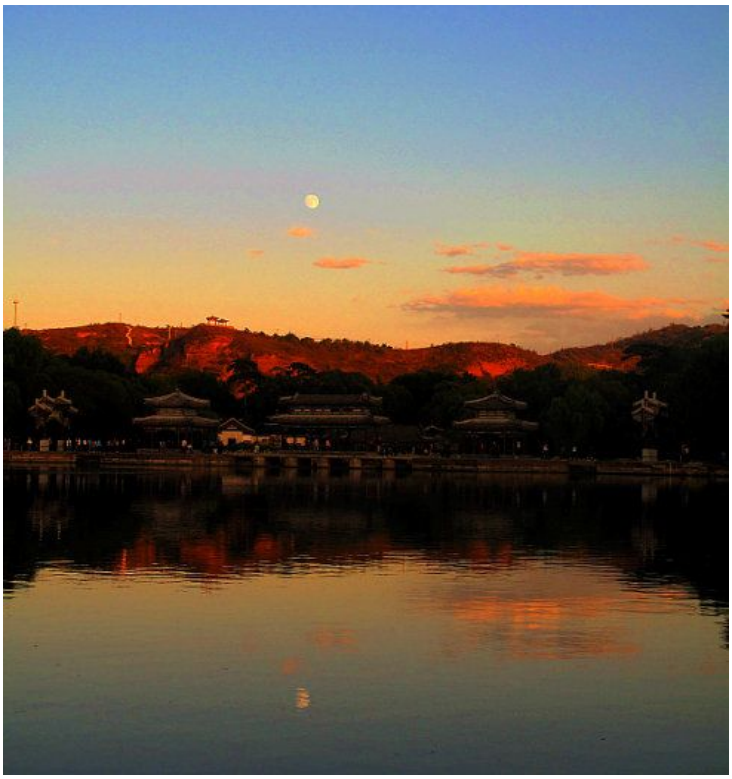

Fig.b The moonlight means silent feeling in Yueseshengjiang of Chengde Mountain Resort (1703*A.D.)*

Fig.5-6 Natural light of different landscape[120]

5.2.1.6 **Natural sound**

Natural sound includes a wide range of varieties. Combined with architectural construction and the specific space matrix of landscape, it forms various soundscape conveying different meanings and implications. The "Listening to Orioles Singing in the Willows" of the West Lake is one representative. Combining the natural sound, it constructs a vivid beautiful sceneries in Jiangnan. The willows stand on the bank and the orioles sing within the willows. They add the dynamic sounds to the static sight. The Mingsha Mountain in Dunhuang is influenced by the climate and geographic factors. The blowing sand spinning in the airstream causes the holes on the surface. And the buzz caused by the diabolo effect comes into being. Thus the desert which is full of silence and solitude is enlivened. It gives people the implicational feeling that "the Mingsha Mountain can cultivate our temperament, and the Moon Lake can improve our soul".(Fig. 5-7)

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[120] China Association of National Parks and Scenic Sites,*Best Scenery and Sight in China*. China Architecture & Building Press, 2011, p. 24

Fig.a The sound of sand like music means mystical feeling in Mount Mingsha

Fig.b The oriole sound in Liuanyingti of West Lake means spring landscape[121]

Fig.5-7 Natural sound of different landscape

5.2.2 Artificial building factor

Building is the indispensable landscape subject of traditional architectural

landscape, the permeation and transmission of traditional culture, also the artificial carrier of tectonic image. Building presents the thought of harmony between human beings and nature with the landscape space construction, conveys cultural concept with different function form, plaque and stele brings put the theme which is compared to the landscape, using the artificial sound to form the dynamic feeling of landscape atmosphere.

5.2.2.1 **Architectural function form**

The functional type of building decides the space form and cultural trait. Palace, religion and folk house all have their own specific style for each functional type, which represents the inner cultural thought. They are composed of landscape form, with shape change but the cultural trait remains unchanged.

Royal garden landscape having elegant and delicate small garden ornaments, palace, religious temple and pagoda and folk house in region of rivers and lakes contain the architectural cultural essence around the country, presenting the cultural trait of unified imperial power. The building in religious garden forms the secluded and mysterious landscape implication perception factor with belief function. The community building function in each cultural region is residential type, but representing different regional culture with its unique architectural style form. Settlement in Tibet mountains combining the function form of temple contain the ethic culture of rough and simple but unified faith.(Fig. 5-8)

Fig.a The entertainment architecture in Slender West Lake (1757 *A.D.)*

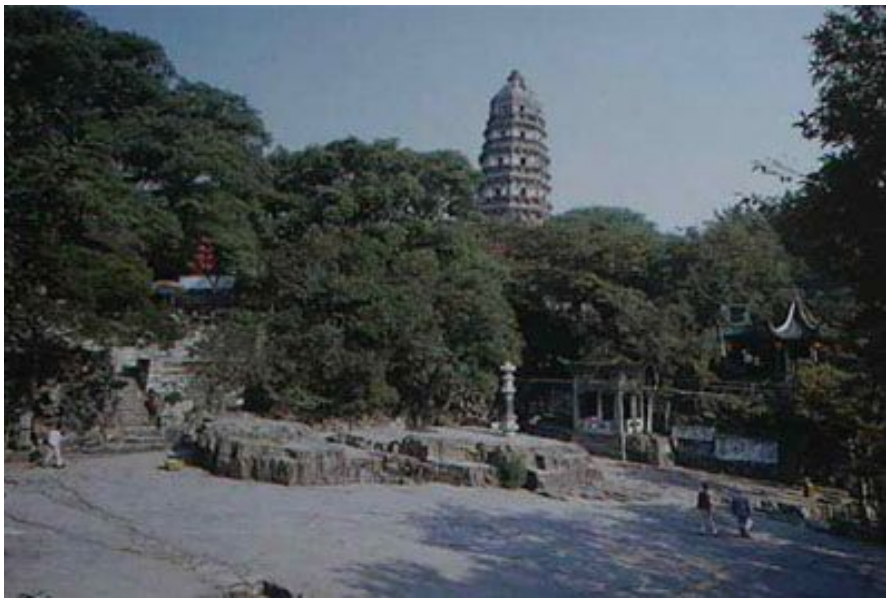

Fig.b The religious pragoda in Huqiu (959 *A.D.)*

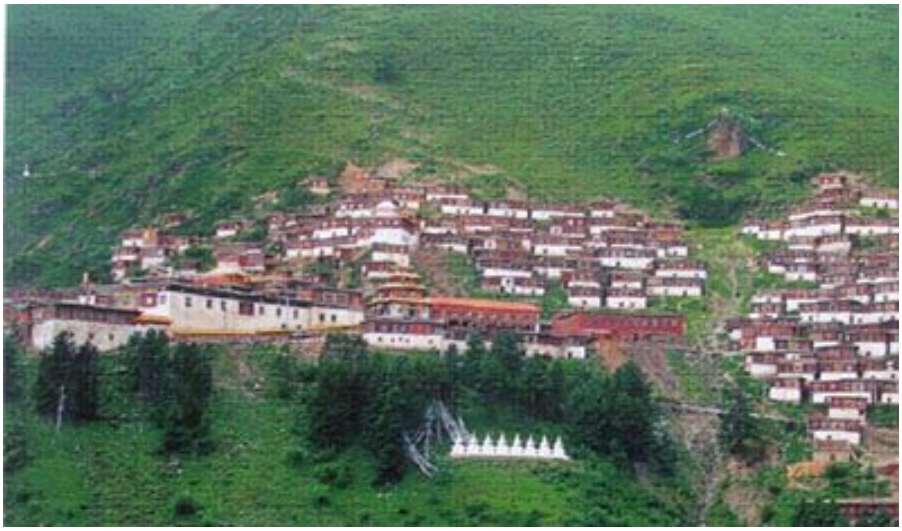

Fig.c The palace mix with residence in Tibet[122]

Fig.5-8 Architectural founction and type

5.2.2.2 **Exterior surface space of building**

Building is constructed in the landscape, its exterior surface combining the landscape forms the open and mixed or closed and secret space, which provides travel path for the subjectivity and the landscape implication can be perceived. Landscape space becomes the spirit implication of constructor due to its figurative meaning. In the landscape of Qiong Island in North Sea, buildings are concentrated arranged on the island located in the water. The corridors with pavilions are built among the mountain stones in three directions, making the building partly hidden

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[121] Ru Xin, *Chinese Landscape Painting*. Higher Education Press, 2009, p. 64

and partly visible when people are traveling, the hidden and visible change just like passing through the fairyland. Yuelu Academy at the foot of Yuelu Mountain is arranged with the symmetric style in space. The cross and orderly building and courtyard arrangement in the primary and secondary axis becomes the expression of etiquette in Confucianism, making people experience the orderliness and modest and courteous landscape image in the architectural landscape.(Fig.5-9)

Fig.a The architectural interface space of Ningchang village (991 *A.D.*)

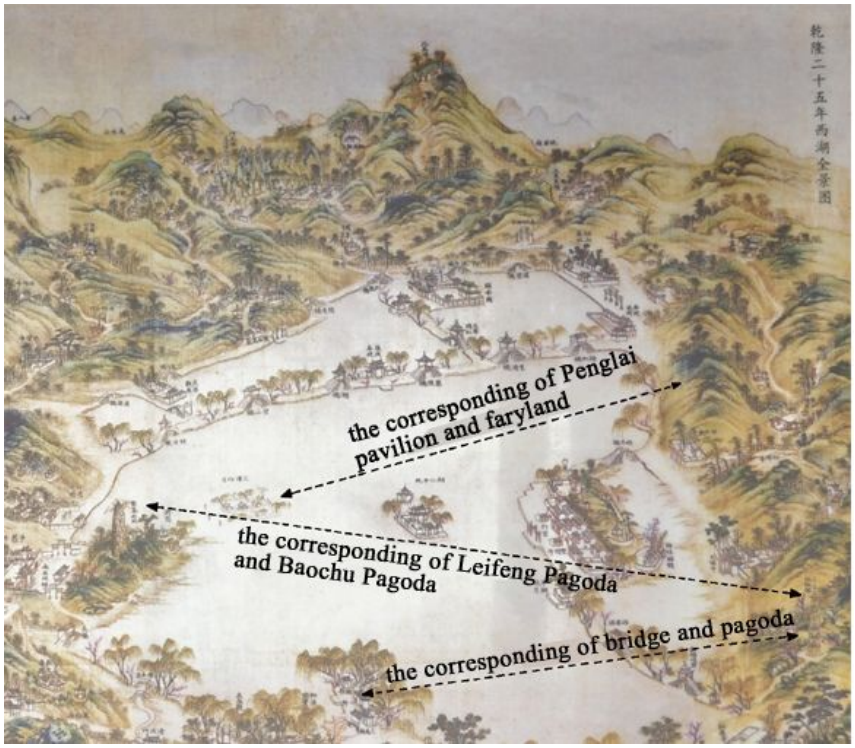

Fig.b The corresponding architectural space of West Lake

Fig.5-9 architectural outside interface of different landscape

5.2.2.3 **Stele and plaque**

Stele and plaque are a part of architectural landscape combined with building

or attached to the building, which can be clearly seen and the landscape implication perception can be deepen by words. “Chu has talents” which is from *Zuozhuan (Commentary on Spring and Autumn Annals by Zuo Qiuming) · Xianggong 26th Year* and “Talents are gathered here” which is from *The Analects of Confucius · Taibo* are the couplet hung on the two sides of the gate of Yuelu Academy, presenting the historical facts of coming out talents here. Bai Juyi’s *Lengquan Pavilion Note* (a poem) makes this architectural landscape of constructing pavilion on the water spread to all the regions. The poem plaques on the pavilion present the on-site writing for expressing emotion of poets in past dynasties, and the verses endow the landscape with cultural spirit. It is said that the “Chong’er” stele on the right of Huxin Pavilion of the three islands in the Hangzhou West Lake was written by Emperor Qianlong when go boating on the lake. As the moonlight shines in Huxin Pavilion, together with the cool wind feeling, “a magnificent view” is hereby generated which makes the writing and the scenery combine.(Fig.5-10)

Fig.a The plaque of Lengquan pavilion

Fig.b The stone tablet of West Lake means best landscape
Fig.5-10 Plaque and stone tablet of different landscape

5.2.2.4 **Artificial sound**

Building structure generates artificial sound, which is carefully designed to express the specific atmosphere of landscape and bring people strong heart shock. Morning bell and evening drum is from *In Mountain* (a poem) of Li Xian in Tang Dynasty: "Morning bell and evening drum is not heard, my feeling is endowed with the moon and sole cloud." The landscape of temples in the mountains uses deep, long and resonant bell sound and drum sound, having the function of cleaning and warning popular feeling. Morning bell and evening drum also warn people to treasure time because how time flies! Under the eave of traditional building such as some temples and pagodas, big bell is hung which having clear and melodious sound when there is cool breeze. It is hung for dispersing birds and protect the building, while in people's view, it also has the meaning of driving out evil spirits, having the mysterious power after the Buddism's function. In Drum Tower of Dong Village, when occurring celebration or danger, the drum will be beat to use the sound as a celebration or warning, which is the guidance of clan' spirit.(Fig. 5-11)

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[122] Li Yuxiang, *Settlement and Tample*. Jiangsu aesthetic Press, 2002, p. 56

Fig.a The sound of wind tudor of tample

Fig.b The sound of human behavior in the space of drum-tower in Dong village

Fig.5-11 Artificial sound of different landscape

5.2.3 Cultural factor

Cultural factors come from the culture perceived in landscape implication. During the process of landscape creation, the subjective factors become the cultural purport of landscape construction, and therefore transfer to factors contained in objective environment.

5.2.3.1 **Myth and allusion**

In psychological research of Carl Gustav Jung, myth is considered to be the most primitive “collective unconsciousness” of mankind. It is the experience accumulation of interpretation on the nature and social phenomenon through

human's investigation or experience, meanwhile, due to some unsolved mysteries, people add their "fantasy" in it, and it is the mental result of assimilating the reality to fantastic cognition. Therefore, spiritual and cultural creature forms the myth. Sea and mountain in fairy land, Taoist concept of human conduct, goodness mending the sky, the Jade Emperor and Queen Mother in the heaven, all these art forms are important tectonic concepts, and induce people to simulate and reproduce such images. Fantasy is the most non-rational trait of myth, however, during the process of compilation based on people's behavior, myth owns the root of experience accumulation. Historical allusions are mostly specific events occurred to real persons and will become the sustenance of people's pursuit and supplication. Architectural landscape built based on allusion possesses record and present of historical events, worship to historical figures, as well as records of emperors' conducts, and is the implication perception medium of traditional culture boasting reality and fantasy.

5.2.3.2 **Religious faith**

Religious faith is of great importance in traditional culture. It is inherited from generation to generation in multiple branches, and forms factors with belief image in combination with specific space. Taoism established based on the core traditional culture and inheritance of some Taoism philosophy is the main part of Chinese religions. Taoism architectural landscape, built along mountains and rivers, seeks for inaction, eternality and source of the universe. Buddhism, sourced from foreign culture, is formed with combination of Chinese core culture, and is the core cognition of Sukhavati archetype image. Temples, pagodas and grottos are built among the mountains and rivers according to different sects. Regional primitive religion plays an important role in construction of some architectural landscapes, such as worship of nature, totem and ancestors, which makes the boundary of architectures, plants, mountains and rivers an area with special meaning.

5.3 Image assessment system based on implication perception

Assessment is the process of acquiring the cognitive result from subjectivity to object. From a philosophical perspective, "Assessment is formed due to the judgment on the subjectivity's value generated by the perception of subject." [123] Assessment forms people's judgment on various special objects in the world based on illustrating with special reflection, which is a kind of important concept activity." [124] Nassauer (1995) believes that landscape is constructed due to culture and present cultural trait at the same time. Human beings generate perception and cognition due to the influence of landscape, form the landscape assessment derived from their feeling, thus present people's preference with this kind of correlative

process. Perceived image assessment generated from landscape implication perception is the assessment system of isomorphic subject and object generated according to information text based on certain assessment standard, also the presentation of the illustrating and value of cultural inheritance of landscape image.

5.3.1 Assessment standard

Only under the generated standard basis based on theory, can landscape image assessment index acquire the assessment result with guiding and operating illustrating. In *Image of the City*, Kevin Lynch mentions that the understanding on the image of the city includes the standards of "recognizability" and "impressiveness" [125]. As the cultural regional unit having feeling identifying and consciousness experience, the implication perception of architectural landscape also has this characteristics. At the same time, the cultural trait of traditional architectural landscape has been inherited for thousands of years, which can still be experienced through implication perception, being the measurement scale of image assessment. Thus, contrasted with the characteristic of implication perception, the assessment standards of identifying, impressiveness and inheritance are formed.

"A processable image can arouse the relevance of human and landscape, i.e. distinguished from the surroundings. As the recognizability of an individual, it has the self-existent and sole illustrating."[126] During the landscape implication perception, people generate different consciousness by feeling. Identifying is the unique factor perception characteristics obviously abstracted by the subjectivity. In the end, factor selected in priority is the most recognizable assessment object and forms the perception degree, thus image assessment can be conducted based on this standard.

Impressiveness of traditional architectural landscape is: "the characteristics contained in the tangible object, which can arouse strong image to any observer, i.e. the object is not only seen, but also clearly and strongly perceived." [125] Such kind of

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[123] C H Key, N C Benson, *Landscape assessment, Development & Perspectives of Landscape Ecolog*, 2002, vol(4), p.12

[124] E H Zube, *Themes in landscape assessment theory, Landscape Journal*, 1984,vol(3),p.46

[125] Kevin Lynch. *The Image of the City*. The MIT Press, 1960,p.78,80

[126] R J Johnston, *Confucianism and geography* , Commercial Press, 1999, p.219

impressiveness factor becomes a kind of thought image with symbolic illustrating and subjective color through identification, which is the landscape characteristics still can be memorized even though far from landscape. The impressiveness of landscape factor generated by the subjectivity is different from the perception level formed by implication after contrast, being another standard of image assessment.

The image inheritance of traditional architectural landscape is due to its cultural connotation. Implication becomes the carrier of culture transmission, which is the typical and irreplaceable cultural connotation. The traditional culture penetrated in the landscape is the “symbolic thought” wisdom of harmony in human beings and nature from the ancients, generated by the guidance to landscape formation from the mainstream culture of traditional society. “Social culture, athletics and folk activity in each period are recognized widely, carried on from generation to generation, and aroused resonance in image.” this makes inheritance become the assessment standard of perceived image.

5.3.2 Assessment object

The West Lake Cultural Landscape of Hangzhou, comprising the West Lake and the hills surrounding its three sides, has inspired famous poets, scholars and artists since the 9th century. It comprises numerous temples, pagodas, pavilions, gardens and ornamental trees, as well as causeways and artificial islands.

West Lake is an outstanding example of a cultural landscape that display with great clarity the ideals of Chinese landscape aesthetics, as expounded by writers and scholars in Tang and Song Dynasties. West Lake is surrounded on three sides by 'cloud-capped hills' and on the fourth by the city of Hangzhou. Its beauty has been celebrated by writers and artists since the Tang Dynasty (AD 618-907). In order to make it more beautiful, its islands, causeways and the lower slopes of its hills have been 'improved' by the addition of numerous temples, pagodas, pavilions, gardens and ornamental trees which merge with farmed landscape. The main artificial elements of the lake, two causeways and three islands, were created from repeated dredgings between the 9th and 12th centuries.

Since the Southern Song Dynasty (thirteenth century) ten poetically named scenic places have been identified as embodying idealised, classic landscapes - that manifest the perfect fusion between man and nature. Nature, architecure and culture

make different landscape. Its causeways, islands, bridges, temples, pagodas and well defined views, were widely copied over China, notably in the summer Palace at Beijing and in Japan. (Fig. 5-12)On one hand, the famous cultural folkfores may bring the same feeling to subjects On the other hand, different landscape space will bring various aesthetic experiences.Both of these will obtain useful data for assessment.

Fig.a Two Peaks Piercing the Clouds

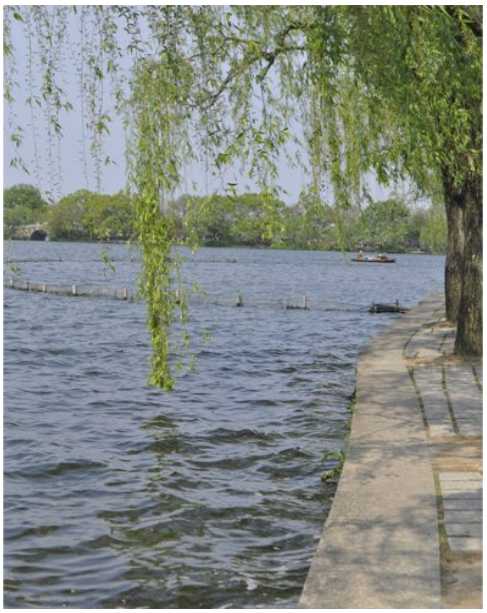


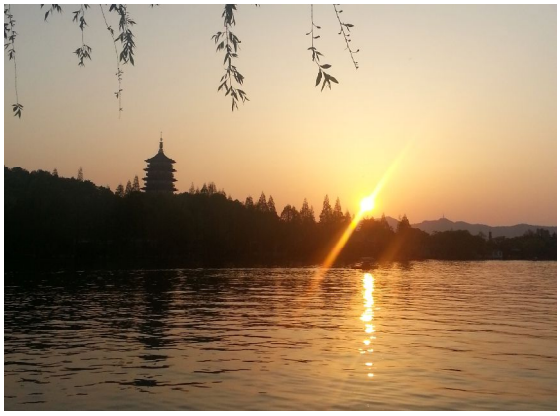
Fig.b Dawn on the Su Causeway in Spring

Fig.c Wine-making Yard and Lotus Pool

Fig.d Broken Bridge with Thawing Snow[127]

Fig.e Moon over the Peaceful Lake in Autumn

Fig.f Orioles Singing in the Willows



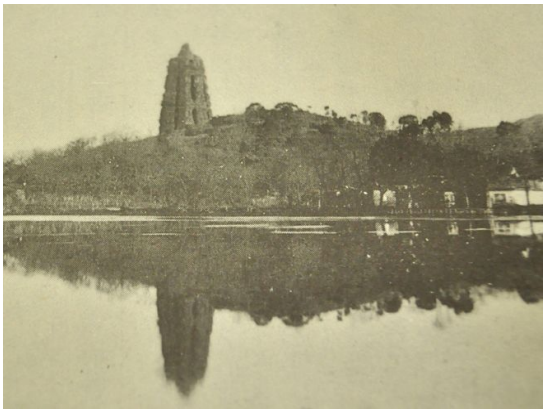
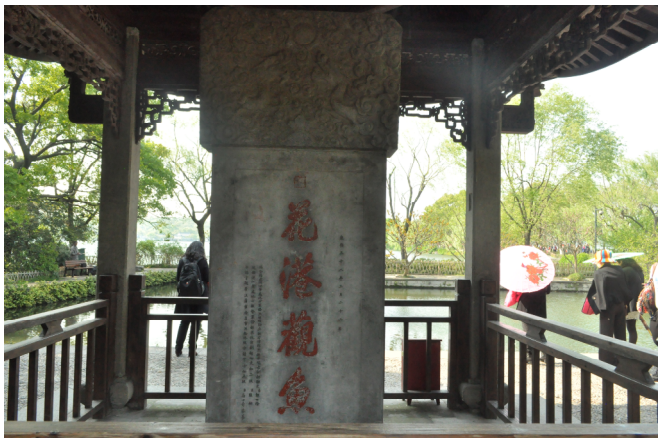


Fig.g Leifeng Pagoda in the Sunset

Fig.h Three Pools Mirroring the Moon[127]



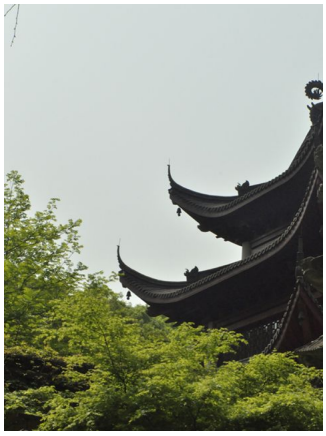


Fig.i Fish Viewing at the Flower Pond Fig. j Evening Bell Ringing at the Nanping Tample

Fig. k The myth of "White Snake"

Fig. l The Buddism tample and pagoda

Fig.5-12 The assessment factors of Ten Scenes of West Lake

5.3.3 Assessment subject

Some scholars believe: the situational factors generated by the combination of social structure and cultural background, such as rich level, social differentiation, can generate environmental behavior affected cognition. [128] Thus, the select of subjectivity and the setting of relevant social background options are the important influential factors of image assessment. This assessment selects the people within Ten scenes of the West Lake as the assessment subject, (Fig. 5-13) which have the most direct experience and feeling, thus, intuitional image assessment can be attained. According to the social background options affected the subjectivity of perception to measure result, individual image perception levels all have some change, but the conforming result can be generated from the same social

[127] Tian Rucheng, *Records of the West Lake* , Estern Press, 2012, p.145-147

[128] Marsh H W, Han K T, Balla J R, Grayson. *Is more ever too much: The number of indicators perfactor in confirmatory factoranalysis, Multivariate Behavioural Resaerch*, 1998,vol(2),p. 181-220

background and form the same group, which has otherness of image assessment with the member of other group and forms various perception level and image assessment. As the result of image assessment can be affected by subjective social background, the otherness of image perception in members of different groups can be measured and the theory basis can be provided for the landscape design of people oriented.

Fig.5-13 The assessment subjects of Ten Scenes image of West Lake

5.4 Model of landscape image assessment

This survey lasts about one month and adopts subject interview and questionnaire survey randomly with purpose in the landscape region of Ten Scenes of the West Lake which is prepared to be surveyed. There are 350 questionnaires sent out, 322 questionnaires collected and the effective recovery rate is 92%. The survey subject includes local residents and tourists. Through the contrast between

perception behavior and cognition structure generated by tectonic concept which is presented by implication to obtain factor perception level and construct the model of image assessment of Ten Scenes of the West Lake, and analyzes the relevance between it and tectonic image.

5.4.1 Quantification disposal of text message

Through the landscape on-site survey, the implication perception level generated from subjectivity to object is obtained by questionnaires and SPSS17.0 is adopted to conduct the verification of reliability and validity of data. This is to use reliable data to construct SEM of random variable, structure parameter and non-random variable composed of image element and factor, presents comovement relation through perception structure parameter and forms model of landscape image assessment.

According to the data requirement of ML adopted by the research, the examination of normal distribution is conducted in the attained data. Tab. 5-2 shows the analysis of skewness and kurtosis, use the SPSS17.0 software to conduct statistic analysis on the datamation level of perception factor, the average numerical statistics attained based on the three level standards mainly includes mean value, standard deviation, skewness and kurtosis of observational variable125. The data produced in the image assessment of 12 perception factors does not conform to normal distribution, but as the stability of ML method, the model can still be constructed.

Tab.5-2 The coefficient of skewness and coefficient of kurtosis of assessment factors data

The variables	The average	Standard deviation	Coefficient of skewness		Coefficient of kurtosis	
	statistics	statistics	statistics	Standard deviation	statistics	Standard deviation
terrain of mountain and river	5.206	2.08	-0.261	0.106	-0.463	0.211
species of plants	5.625	2.104	-0.384	0.106	-0.652	0.211
seasonal characteristics of plants	6.267	2.043	-0.474	0.106	-0.523	0.211
meteorological phenomena	6.754	2.091	-0.545	0.106	-0.257	0.211
natural light	5.604	2.067	-0.513	0.106	-0.316	0.211

natural sound	5.582	2.242	-0.287	0.106	-0.596	0.211
architectural founction and type	5.545	2.063	-0.463	0.106	-0.554	0.211
architectural outside interface	7.915	2.063	-0.869	0.106	0.508	0.211
plaque and stone tablet	7.883	2.124	-0.954	0.106	0.409	0.211
artificial sound	7.932	2.157	-0.893	0.106	0.495	0.211
myths and historical stories	5.614	2.234	-0.356	0.106	-0.574	0.211
religious belief	6.617	2.396	-0.505	0.106	-0.395	0.211

Tab. 5-3 shows the analysis result of data reliability of 12 perception factors in principal component analysis. Cronbach's α coefficient is the method mostly used in reliability analysis. According to the standard of Nunnerley, α>0.9 means the reliability is very good, 0.9>α>0.7 means the reliability is good, 0.7>α>0.35 means the reliability is medium, α<0.35 means the reliability is low.[129] According to the display in the table, Cronbach's α coefficient is 0.825, which means this analysis result has good reliability according to the assessment standard.

Tab.5-3 Reliability analysis results

Reliability Statistics	
Cronbach's Alpha	N
.825	12

Secondly, Tab. 5-4 shows the analysis result of data validity of 12 perception factors. It can be seen that KMO sample measure values are all greater than 0.55 and the accompanying probability of Bartlett hemisphere statistic is less than 0.05, which means that perception factor is suitable for conducting factor analysis.

Tab. 5-4 KMO and Barelett analysis result

KMO	0.715
Bartlett	1660.438
Sig.	0.000

[129] Wu Minglong. *SPSS: Statistical application practice*, Beijing: Science Press, 2003, p. 36-42

From the analysis result of Tab. 5-5, 5-6, according to the principal component analysis, attaining the factor ingredient by extracting principal component from 12 factors is the presentation of factor attribute in landscape image assessment. There are 5 ingredients can be used to accumulate and explain total variance, in which architectural function form, architectural outer space interface and architectural plaque and stele are gathered under the first principal component, illustrating that the three factors have common characteristics and they are classified into the same level element, which is collectively known as "architectural environment". Myth, historical allusions and religious faith are gathered under the second principal component, illustrating that the two factors have common characteristics and they are classified into the same level element, which is collectively known as "cultural environment". Landscape form, plant species and plant's characteristics in four seasons are gathered under the third principal component, illustrating that the three factors have common characteristics and they are classified into the same level element, which is collectively known as "landform matrix". Cloud, mist, rain and snow weather and natural lighting are gathered under the fourth principal component, illustrating that the two factors have common characteristics and they are classified into the same level element, which is collectively known as "random weather". Natural sound and artificial sound are gathered under the fifth principal component, illustrating that the two factors have common characteristics and they are classified into the same level element, which is collectively known as "sound environment".

Tab. 5-5 Base limited factors into the total variance explained

Elements	*Data of initial characteristics*			*Draw the sum of squares Loading*		
	Total	*variance %*	*accumulate %*	*Total*	*variance %*	*accumulate %*
1	6.692	60.763	60.763	6.692	60.763	60.763
2	1.787	10.894	71.657	1.787	10.894	71.657
3	1.347	8.223	79.880	1.347	8.223	79.880
4	1.110	7.251	87.131	1.110	7.251	87.131
5	1.008	5.152	92.283	1.008	5.152	92.283
6	0.709	3.910	96.193	—		—
7	0.675	2.623	98.816	—	—	—

8	0.646	0.380	99.196	—	—	—
9	0.492	0.329	99.525	—	—	—
10	0.373	0.245	99.770	—	—	—
11	0.271	0.121	99.891	—	—	—
12	0.040	0.109	100.000	—	—	—

Tab.5-6 The componential Landscape image factors

factors / The variables	F1	F2	F3	F4	F5
terrain of mountain and river	—	—	0.803	—	—
species of plants	—	—	0.825	—	—
seasonal characteristics of plants	—	—	0.774	—	—
meteorological phenomena	—	—	—	0.685	—
natural light	—	—	—	0.643	—
natural sound	—	—	—	—	0.699
architectural founction and type	0.823	—	—	—	—
architectural outside interface	0.815	—	—	—	—
plaque and stone tablet	0.794	—	—	—	—
artificial sound	—	—	—	—	0.727
myths and historical stories	—	0.726	—	—	—
religious belief	—	0.712	—	—	—

5.4.2 Construction and examination of conceptual model

Implication perception factor forms five ingredient attributes according to image assessment, illustrating that factor perception has the same and different otherness of classification. Thus, among ingredient attributes, as the perception factor is included,

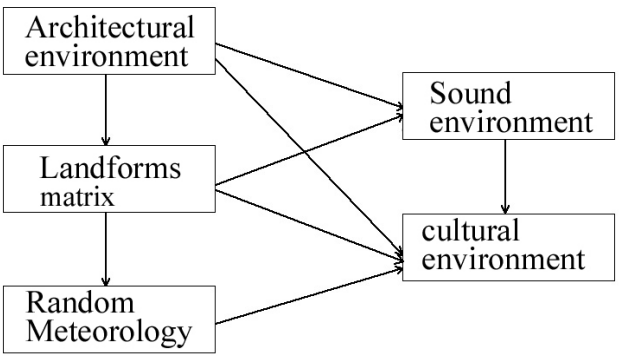


Fig.5-14 Conceptual model of image elements

there is some certain relation in landscape image assessment and the relation among perception factors is presented, therefore, the model of image assessment which explaining perception structure is hereby constructed. According to the ingredient attribute of factor integration generated by perception, use the relation of ingredients generated by qualitative analysis together with the causal relationship which may exist to describe and solve, which has the significant meaning for the model construction of landscape image assessment(Fig. 5-14):

H1: architectural environment has significant positive influence on landform matrix;

H2: architectural environment has significant positive influence on sound environment;

H3: architectural environment has significant positive influence on cultural environment;

H4: landform matrix has significant positive influence on random meteorology;

H5: landform matrix has significant positive influence on sound environment;

H6: landform matrix has significant positive influence on cultural environment;

H7: sound environment has significant positive influence on cultural environment;

H8: random weather has significant positive influence on cultural environment. This research conceptual model is constructed by the aforesaid eight assumptions.

The examination of reliability and validity illustrates that the perception factor of perceived image assessment can be used in SEM method to construct perceived image assessment model. Use the factor ingredient attribute as the latent variable and the factor as the observational variable, indicate method with the path diagram of model and transform the factor influence relation generated from qualitative analysis. The model needs recognizable verification and regards the operation result of t as the judgment rule. According to t rule, p (endogenous variable)=17 and q (exogenous variable)=10 in this model, the number of different variance or covariance is generated from the calculation of $(p+q)(p+q+1)/2=378$, unknown parameter number $t=62$ is realized in the model which satisfies t rule $(p+q)(p+q+1)/2 \geq t$ and the recognizable model is formed. [267] According to the path relationship of factor and ingredient attribute, the perception data is input and refer to Fig. 5-15 for model operation result. The model after operation of path

relationship can not directly illustrate the relation among variables, it has to be conducted model assessment according to data and examined the foundation of model under the circumstances that it conforms to the indication range. Otherwise, it has to be debugged to attain the assessment model conforming to the standard.

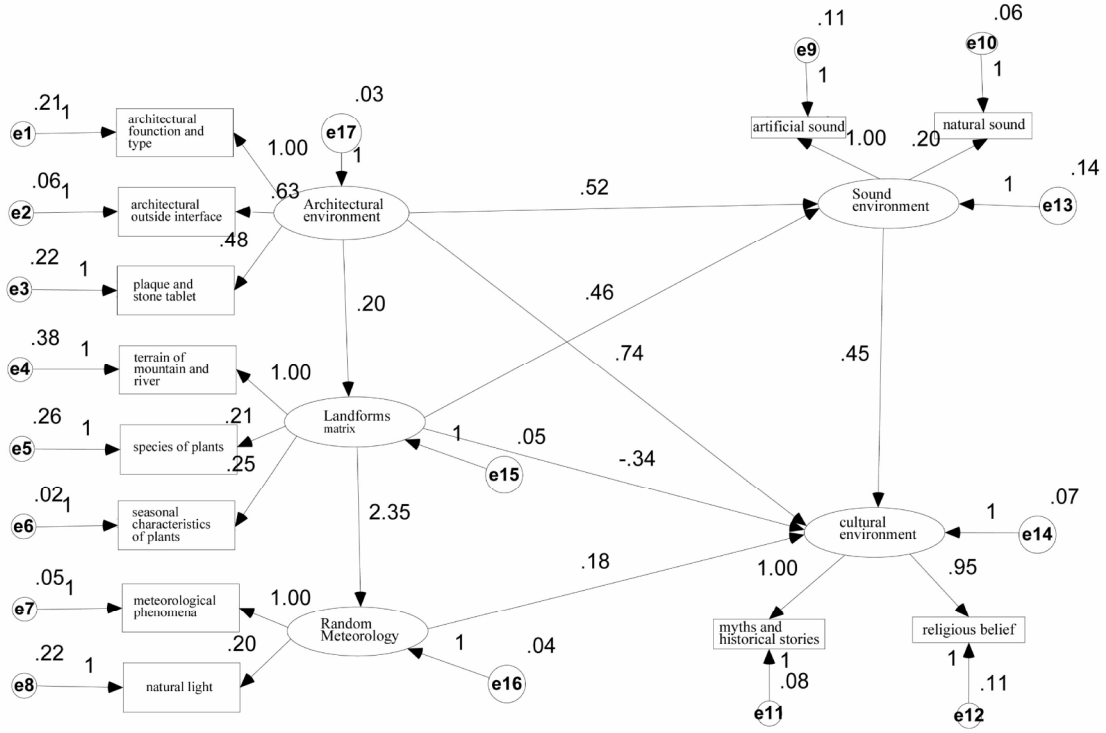


Fig.5-15 Model of landscape image assessment

It can be seen from Tab. 5-7 that the path coefficient of landform matrix and cultural environment is -0.337, its p value is 0.300; p value of architectural environment and landform matrix is 0.052; p value of random environment and cultural environment is 0.186. This illustrates that its probability of zero is greater than 0.05, and the significance testing is not passed.

Tab.5-7 Coefficient estimation results

Variable	Index	Estimate of not standardized path coefficient	S.E.	C.R.	P	Label	Estimate of standardizedpath coefficient
architectural evironment	landforms matrix	0.202	0.103	1.793	0.052	par_12	0.158
architectural evironment	Sound environment	0.527	0.195	2.702	0.007	par_6	0.230
architectural evironment	cultural environment	0.733	0.199	3.689	***	par_5	0.361

Variable	Index	Estimate of not standardized path coefficient	S.E.	C.R.	P	Label	Estimate of standardizedpath coefficient
landforms matrix	random meteorology	2.354	0.356	6.584	***	par_13	1.076
landforms matrix	sound environment	0.459	0.130	3.522	***	par_7	0.260
landforms matrix	cultural environment	-0.337	0.325	-1.036	0.300	par_15	0-.209
sound environment	cultural environment	0.451	0.070	6.483	***	par_14	0.496
random meteorology	cultural environment	0.179	0.135	1.322	0.186	par_4	0.243
architectural evironment	architectural founction and type	1.000	—	—	—	—	0.363
architectural evironment	architectural outside interface	0.554	0.545	2.849	0.004	par_3	0.776
architectural evironment	plaque and stone tablet	0.472	0.201	2.346	0.019	par_1	0.181
landforms matrix	terrain of mountain and river	1.000	—	—	—	—	0.349
landforms matrix	species of plants	0.201	0.219	5.476	***	par_8	0.475
landforms matrix	seasonal characteristics of plants	0.236	0.338	6.615	***	par_9	0.968
random meteorology	natural light	0.185	0.054	3.432	***	par_2	0.206
random meteorology	meteorological phenomena	1.000	—	—	—	—	0.919
sound environment	natural sound	0.204	0.120	10.058	***	par_10	0.899
sound environment	artificial sound	1.000	—	—	—	—	0.774
cultural environment	myths and historical stories	1.000	—	—	—	—	0.801

Variable	Index	Estimate of not standardized path coefficient	S.E.	C.R.	P	Label	Estimate of standardizedpath coefficient
cultural environment	religious belief	0.939	0.104	9.049	***	par_11	0.735

Annotate: "***" reflect 0.01 level remarkable

When constructing the model of landscape image assessment, it is assumed that the relation path constructs conceptual model and verify the aforesaid assumptions according to data to examine the rationality of model.

Tab.5-8 Theoretical models assume that the path coefficient and experience

Index	Estimate of path coefficient	P	Corresponding hypothesis
architectural evironment→ landforms matrix	0.202	0.052	H1
architectural evironment→ sound environment	0.527	0.007	H2
architectural evironment→ cultural environment	0.733	***	H3
landforms matrix→ random meteorology	2.347	***	H4
landforms matrix→ sound environment	0.459	***	H5
landforms matrix→ cultural environment	-0.337	0.300	H6
sound environment→ cultural environment	0.451	***	H7
random meteorology→ cultural environment	0.179	0.186	H8

Annotate: "***" reflect 0.01 level remarkable

It can be seen from Tab. 5-8

(1)Architectural environment's influence on landform matrix. It is assumed that the architectural environment has positive influence on landform matrix (H1), the path coefficient is positive number, i.e. the direct influence is positive effect. However, the path coefficient does not reach obvious level （p=0.052）, it is assumed that H1 is not passed in examination.

(2) Architectural environment's influence on sound environment. It is assumed that the architectural environment has positive influence on sound environment (H2), the path coefficient is positive number, i.e. the direct influence is positive effect. (p=0.007), it is assumed that H2 is passed in examination.

(3) Architectural environment's influence on cultural environment. It is assumed that the architectural environment has positive influence on cultural environment (H3), the path coefficient is positive number, i.e. the direct influence is positive effect (p is obvious in 0.01 level), it is assumed that H3 is passed in examination.

(4) Landform matrix's influence on random meteorology. It is assumed that the landform matrix has positive influence on random meteorology (H4), the path coefficient is positive number, but it exceeds 1 under the standard numerical value, (p is obvious in 0.01 level), it is assumed that H4 is not passed in examination.

(5) Landform matrix's influence on sound environment. It is assumed that the landform matrix has positive influence on sound environment (H5), the path coefficient is positive number, i.e. the direct influence is positive effect (p is obvious in 0.01 level), it is assumed that H5 is passed in examination.

(6) Landform matrix's influence on cultural environment. It is assumed that the landform matrix has positive influence on cultural environment (H6), the path coefficient is negative number, i.e. there is no direct influence （p=0.300）, it is assumed that H6 is not passed in examination.

(7) Sound environment's influence on cultural environment. It is assumed that the sound environment has positive influence on cultural environment (H7), the path coefficient is positive number, i.e. the direct influence is positive effect (p is obvious in 0.01 level), it is assumed that H7 is passed in examination.

(8) Random meteorology's influence on cultural environment. It is assumed that the random weather has positive influence on cultural environment (H8), the path coefficient is positive number, i.e. the direct influence is positive effect, while the path coefficient does not reach the obvious level （p=0.186）, it is assumed that H8 is not passed in examination.

After the calculation of model, relevant indexes are attained, in which absolute fit index *GFI*=0.892, relative fit index *NFI*=0.870, not meeting the standard of 0.9. This illustrates that the adaptive level between mode and observed data is general,

which needs to carry out model modification.

5.4.3 Modification of image assessment model

As the model assumption of H1、H4、H6 and H8 are not passes, the model needs modification. According to subjective perception, landform matrix factor has no influence on cultural environment at image perception level, get rid of original unreasonable path. Radom meteorology factor has no influence on cultural factor, get rid of original unreasonable path. Considering the actual meaning of model, according to the influential relation among factors in implication perception, construct the building along with the landscape, form the landscape space tally with landscape landform matrix, landform matrix factor has limit function on architectural environment, thus the path orientation is altered. Sunlight, cloud and mist have hiding and setting off by contrast function on landscape landform, illustrating that random meteorology has influence on landform matrix, thus the path orientation is altered. At the same time, error variance e4 and e5 has significant correlation, thus this correlation is added. The model after modification according to the aforesaid path relation is shown in Fig. 5-16.

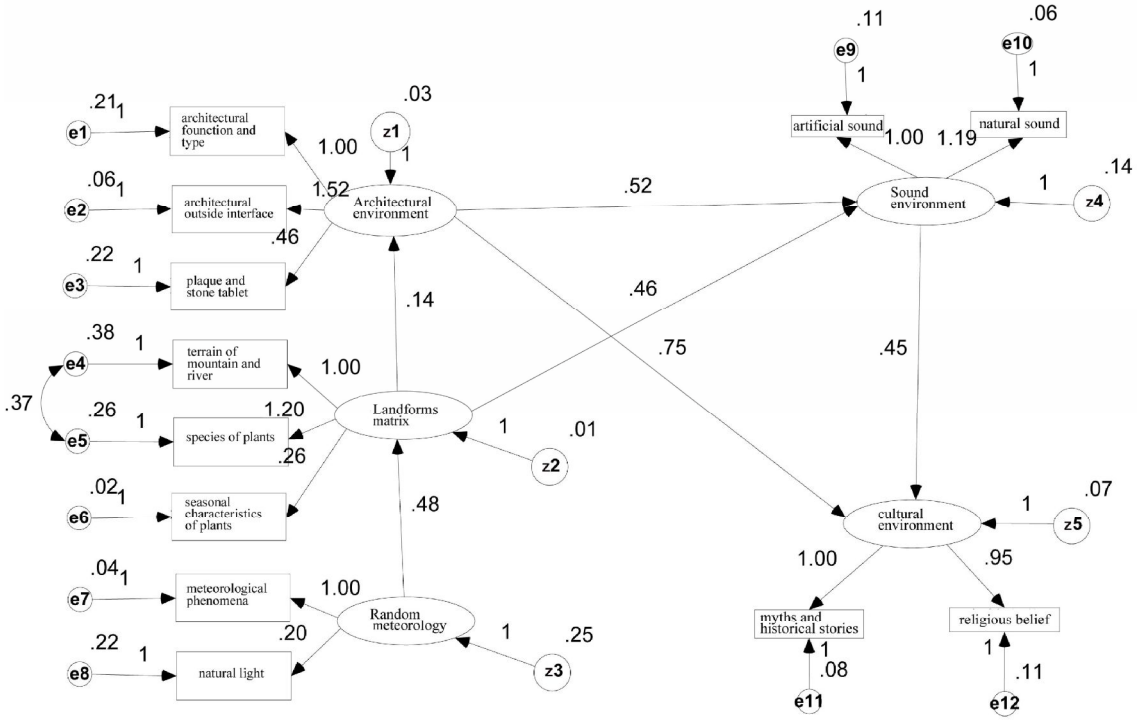


Fig.5-16 Revised model of landscape image assessment

The result after modification is shown in Tab. 5-9, GFI and NFI these two indexes assessment standard are greater than 0.9, conforming to the requirement of data standard. It can be seen in modification result that according to relevant requirement of reducing chi-square index, the limitation of p value less than 0.05 and path coefficient is less than 1 under the standardization[130], all indexes of the modified model have been improved a lot. The degree of freedom of chi-square index is less than 3, conforming to the assessment standard.

Tab.5-9 Model the results of the revised index

Fit indices	chi-square value (freedom)	GFI	NFI
Result	204.937（2.360）	0.901	0.913

From Tab. 5-10 can obtain the coefficient estimate result after model modification, which conforms to the standard and pass the examination. Thereinto, the displayed positive path relation and coefficient assessment result illustrate that the landscape factor of measurable variable has some influential relation on the latent variable factor attribute, which can be used in landscape image assessment. The positive influential relation among elements illustrates that in the subjective image perception, these elements are supplementary to each other, but the influential levels are different, thus have different functions on image perception.

Tab.5-10 The results of previous standard coefficient after Model updating

Index Variable		Estimate of standardizedpath coefficient	S.E.	C.R.	P	Label
landforms matrix	architectural evironment	0.166	0.023	1.934	0.049	Par_13
random meteorology	landforms matrix	0.465	0.564	5.738	***	Par_12

5.4.4 Correlation comparison between image assessment elements and factors

In Tab. 5-11, it can be seen that the six assumptions are founded after the

model is modified. A perceived image assessment system is formed based on the relationship of perception factors component attribute, which reflects the structure existence of interrelated effects between the viewing process of each factor. It means that image in traditional architectural landscape image, from the structure to the view, in perspective of perception, has the same strain of cognitive structure. People can feel tectonic image thought and the concept of landscape from each implication perception medium in the existed landscape, which has reflected the time-space characteristics of perceived image as a cultural heritage carrier.

Tab.5-11 Coefficients of the results of the revised model

Variable	Index	C.R.	*P*
architectural evironment	sound environment	2.696	0.007
architectural evironment	cultural environment	3.692	***
landforms matrix	architectural evironment	1.934	0.049
landforms matrix	sound environment	3.522	***
random meteorology	landforms matrix	5.738	***
sound environment	cultural environment	6.238	***
architectural evironment	architectural founction and type	—	—
architectural evironment	architectural outside interface	3.434	***
architectural evironment	plaque and stone tablet	2.383	0.017
landforms matrix	terrain of mountain and river	—	—
landforms matrix	species of plants	6.054	***
landforms matrix	seasonal characteristics of plants	6.552	***
random meteorology	natural light	3.882	***
random meteorology	meteorological phenomena	—	—
sound environment	natural sound	10.618	***
sound environment	artificial sound	—	—
cultural environment	myths and historical stories	—	—
cultural environment	religious belief	9.492	***

Annotate:“***” reflect 0.01 level remarkable

5.4.4.1 **Ingredient relevance**

Scale of data is an objective interpretation to explain subjectivity of image perception assessment, in order to illustrate the relationship between each factor attribute in landscape tectonic thought, correspondence to viewing perceptions.(Fig.5-12)

Architectural environment has a positive effect on sound environment which is 0.539, while positive impact effect of the architectural environment on the cultural environment is 0.782. Artificial architectures in Ten Scenes of the West Lake reflect humanistic qualities, and the same idea as landscape structure, objective presentation presents cultural ideas and build up the relations between tectonic image and perceived image. Architectural environment has a certain effect on sound environment, accounting for the fact that people can perceive sound atmosphere from architectural environment. Landscape matrix's positive effect on architectural environment is 0.166, while that on sound environment is 0.658. Sound atmosphere can be perceived from landscape matrix. Landscape matrix has a specific influence on architecture, which leads to different landscapes with unique construction functions and spatial characteristics, having the same philosophy with landscape being in harmony with nature. The weather environment has a positive effect on landscape matrix environment which is 0.465, which indicates that people can feel the influence that weather has on landscape matrix in a random state. Ten Scenes of the West Lake have used different views of smoke, rain, moon to create a different view impression. Thereby, the interactive relationship between view construction and impression built up from meteorological perception. Sound environment has a positive effect on cultural environment, which is 0.498, indicating that people can feel the cultural traits from natural and artificial sound of the West Lake. It also indicates that in addition to vision sense, hearing is also a very important imagery perception medium. Two out of the Ten Scenes of the West Lake are views in accordance with sound landscaping, and thereby, the interactive relationship between sound construction and impression built up from meteorological perception.

[130] L Hatcher, *A Step-by-Step Approach to Using the SAS System for Factor Analysis and Structural Equation Modeling*, SAS Publishing, 1994, p.181-220

Tab.5-12 Empirical Analysis

Index	Estimate of path coefficient	P	conclusion
architectural evironment→ sound environment	0.539	0.007	support
architectural evironment→ cultural environment	0.782	***	support
landforms matrix → architectural evironment	0.166	0.049	support
cultural environment→ sound environment	0.658	***	support
random meteorology→ landforms matrix	0.465	***	support
sound environment→ cultural environment	0.498	***	support

Annotate:"***" reflect 0.01 level remarkable

5.4.4.2 **Factor relevance**

Tab. 5-13 ~ 5-17 is the effect relationship between perception factor and attribute. Each landscape attribute, factor is expressed in different degrees, which is in line with landscape construction thought and landscape image cognition elements, meaning that there is similarity between factor perception and tectonic concept. Perception factor assessment degree being related with tectonic image is the meaning of perceived image assessment model construction, so as to construct a completed landscape image research system.

In Tab. 5-13, it can be seen that architectural function form has the maximum positive effect in architectural environment, indicating that people feel the strongest about imagery building features, namely the signal factors in landscape image. During the interview, people generally have the deepest impression on the Leifeng Pagoda. The Leifeng Pagoda was a 5-floor brick pagoda, which was rebuilt after ages, recording important facts happened in the Song and Ming Dynasties, but most people remember it because of The Legendary of White Snake, and it formed into a mysterious scene in accordance with the uplift lake mountains and lush trees. Positive effects of architectural outer space interface is 0.376, including nodes and roads in landscape image, indicating that people have imagery feelings for unique spatial configurations in Ten Scenes of the West Lake. In Ten Scenes of the West

Lake, rich layers of landscape images were built with architectural elements including tower, bridges, embankment and so on. Baochu Pagoda and the Leifeng Pagoda echoed each other at a distance. Bai Causeway is connected to the bridge, and Bai Causeway and Su Causeway divide the lake space and formed into difference scenes but the scenes at the lake have combined all the scenes into one. People could have a dynamic perception far away, viewing images and configuration of tectonic image are corresponding to each other, to pass landscape culture. Plaque and inscription to the building has a positive effect, which is 0.183, indicating that as part of the building, it can deliver directly to the experience of landscape imagery feeling, Viewing fish at flower harbor, broken bridges and snow and other attractions are all with imperial inscriptions. Take viewing fish at flower harbor as an example, “fish” has a “point” reflects emperors admiring freely the natural environment, and thereby convey landscape characters to viewing people.

Tab.5-13The standardized coefficients of Architectural enviroment

Variable	Index	Estimate of path coefficient
architectural founction and type	architectural evironment	0.750
architectural outside interface	architectural evironment	0.376
plaque and stone tablet	architectural evironment	0.183

In Tab. 5-14, in cultural environment, the maximum positive effect lies in myths and historical allusions, indicating that people feel the strongest about imagery and historical allusions. Many scenes in Ten Scenes of the West Lake are named after legends, such as the Broken Bridge, Leifeng Sunset, etc., among which, the bridge and the Leifeng Pagoda are well known for myths and legends, and this gives the landscape a mysterious and romantic landscape image. The similarity of tectonic image and perceived image means that in the process of viewing, this landscape image can be felt. Religion’s positive effect is 0.732, indicating that people can feel cultural traits through a specific religious landscape in viewing Ten Scenes of the West Lake.

Tab.5-14The standardized coefficients of Humanities enviroment

Variable	Index	Estimate of path coefficient
myths and historical stories	cultural environment	0801
religious belief	cultural environment	0.732

In Tab. 5-15, the landscape form has the largest positive effect in landscape matrix, indicating that people can feel the natural landscape imagery from the morphology of the West Lake landscape. Water in West Lake has made waterside paths into a annular path, and layout of landscape nodes are in accordance with the paths layout, and mountains informed into various spatial levels. For example, Twin Peaks piercing into clouds is based on the natural landscape. Plants species' positive effect is 0.472, and four seasons features of the plants' positive effect is 0.348, indicating that the people could have imagery feelings about West Lake vegetation characteristics, and mostly, specific plant landscaping are used in Ten Scenes of the West Lake, such as the yards of lotuses and spring dawn at Su Causeway, etc., which scenes are formed by plants and seasonal characteristic configuration. Thereby, image relationship between landscape construction and viewing is formed.

Tab.5-15 The standardized coefficients of landforms matrix

Variable	Index	Estimate of path coefficient
terrain of mountain and river	landforms matrix	0.969
species of plants	landforms matrix	0.472
seasonal characteristics of plants	landforms matrix	0.348

In Tab. 5-16, clouds, fog, rain and snow have the largest positive effect in random weather elements, indicating that people have perceptions in different meteorological presentation angle of natural landscape in changing weather. Broken Bridge in Ten Scenes of the West Lake is formed in meteorological landscaping, snow covers the bridge deck making it nearly visible, which makes the bridge broken and non-broken, and therefore, it was named the Broken Bridge. Combined with unique myths and legends, landscape implication which can be perceived is formed, and that is the basis for perceived images. Zhang Hu in Tang Dynasty has the earliest record of this landscape, "Moss is astringent on the bridge, and empty

courtyard with flowers." The lonely snow bridge scene renders the desolate landscape imagery, corresponding to the poignant and appropriate legend. The positive effect of natural light is 0.196, indicating that people have a certain image of perception to landscapes formed by natural light, Ping Hu Autumn Scene and Three Pools Mirroring the Moon are unique images formed by the special light at night, Hong Zhan Zu in Ming Dynasty wrote in the poem "Mountains and pavilion mirror the dust." which is the human feel like being in Wonderland viewing this moon view. It shows that constructing and viewing experience could interfere produce imagery perception relation.

Tab.5-16 The standardized coefficients of random meteorology

Variable	Index	Estimate of path coefficient
meteorological phenomena	random meteorology	0.924
natural light	random meteorology	0.205

Orioles singing in the willows and Nanping Curfew are informed into scenes because of sound in Ten Scenes of the West Lake, which formed into the landscape image of passing nature and religious culture. The willow embankment which is a thousand meters is more elegant because of the rendering of birds singing. Sound in the view confers dynamic landscape experience. Nanping Hill, because of Jiangnan misty rain environment, formed into a pure land misty ethereal imagery, Jingci Buddhist Temple is one of the Buddhist temples in the West Lake, conveying culture and enlightening your heart with bells. In Tab. 5-17, in sound environment, both artificial and natural sounds have a positive effect, indicating that hearing can produce feelings of images, in line with the combination of artificial and natural features in the West Lake landscape.

Tab.5-17 The standardized coefficients of sound environment

Variable	Index	Estimate of path coefficient
artificial sound	sound environment	0.991
natural sound	sound environment	0.189

The empirical result shows that the perception factor, because of the unique attribute, does not exist alone in the process of viewing the subjective assessment, but is closely linked with other attributes, and mutually reinforce. Landscape imagery analysis or landscape design in the same type of image, relationship between composition and attribute of factor needs to be considered, which is the

basis of perceived image assessment, reflecting the concept of landscape structure, so as to build an objective and subjective assessment system of landscape imagery, reflecting the cultural heritage value.

5.4.5 Subjective difference in perception degree

Landscape perceived image is a comprehensive assessment based on different factors and its components of subjective viewing implication perception, with structural characteristics. Thus, differences analysis needs to be done to perception based on subjective social background, in a approximate proportion, part of the regional landscape viewers status can be shown. Thereby, a further research and analysis can be carried out to horizontally compare the identity of subjective perception in different backgrounds, in order to obtain universal assessment conclusion.

Research on Ten Scenes of the West Lake landscape architecture is on going, with 145 men and 177 women. The data is around half and half and sampling distribution is relatively reasonable. According to gender percent of the respondents, there are more women, which have something to do with the fact that it is easier to communicate with women. In the survey, women are more willing to express their feelings on the West Lake landscape. Female perception in humanistic allusions factors is in higher level; while male perception in natural factors is in higher level. Male and female cognition degrees are approximately on the same level to man-made factors. Overall, women are more emotional and are more likely to be attracted by human atmosphere than men. Men are more rational, who have more concerns about landscape functions and the space feeling to natural environment. (Fig. 5-17)

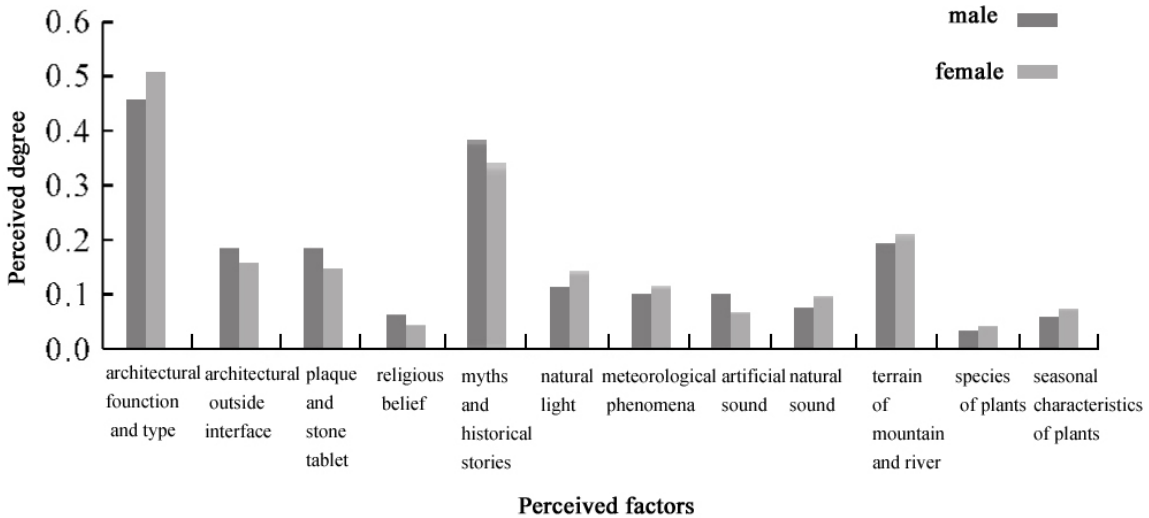


Fig.5-17 The different results of perception levels based on the subjects' sex

In the object of the survey area in the landscape, because images belong to perception category, selecting respondents who can accurately describe the perception is the premise to obtain valid data. Thus, respondents over 18 are divided into 4 groups according to age groups, with a maximum of 60 years old. We try to ensure that the extracted body ages are more even, thereby obtaining equal perception of feelings. Different age groups have different cognition capabilities. In the research, we can obviously find the difference of different age groups have different preferences in factors. Among them, respondents from 45 to 59 have the strongest perception in each factor; respondents above 60 are in second place, which indicates that the more social experience is, the stronger imagery factor sensibility becomes. People age from 25 to 44 are more concerned about major architectural features as well as myths and legends stories in the Ten Scenes, and people from 18 to 24 prefer natural environment cognition. (Fig. 5-18)

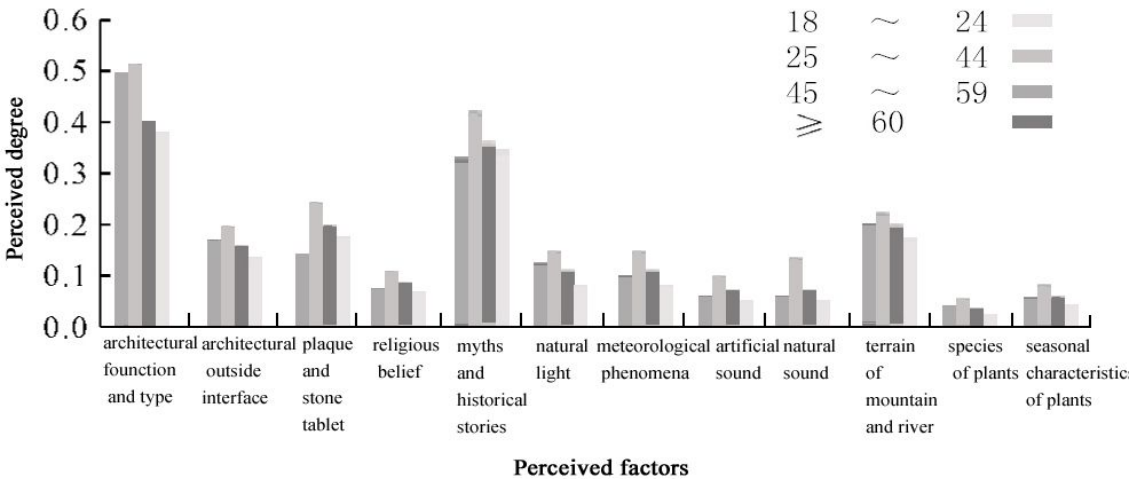


Fig.5-18 The different results of perception levels based on the subjects' age

According to education, respondents are divided into four grades including junior high school education, high school education, college and master's degrees and higher. The respondents, in West Lake landscape architecture survey, are mostly graduated from high school and university. People with a college or master's degree or above have more images of sensibility, particularly in artificial features perception, such as construction functions, but have less sensibility for natural images. Senior high school and junior high school graduates have more sensibility for humanistic tradition and natural imagery factor perception. (Fig. 5-19)

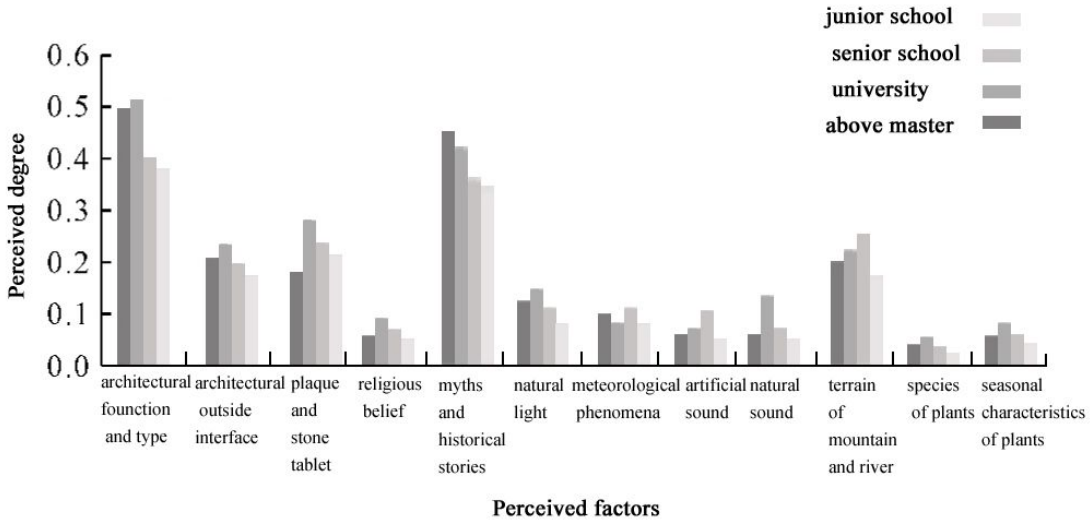


Fig.5-19 The different results of perception levels based on the subjects'education

Respondents' jobs comprises all levels in the society, because the landscape is open to all people, so each of the different types of human perception differ on the landscape and cognition have more reference. The sample volume of each profession is more than 10 people, which can be used as preliminary statistics. According to statistics chart, the perception degree is similar in different jobs. Wherein building function, mythological and landscapes occupy the highest degree of perception, which is the factor with the best recognition, impressiveness and inheritance in each category. (Fig. 5-20)

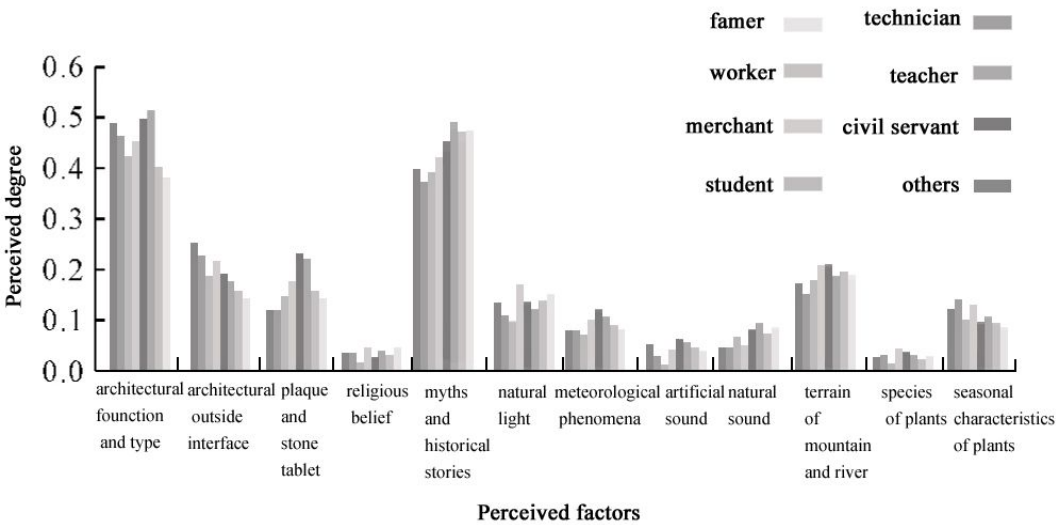


Fig.5-20 The different results of perception levels based on the subjects' job

Professional background is the social background set for common perception differences of landscape designers and viewers, which is mainly divided into relevant professionals and non-professional public. Professionals have more

perception in image factors, such as labor, and analyze the spatial relationships of landscape markers and nodes from a professional perspective. Non-professional public put more emphasis on impressiveness of myths and legends. (Fig. 5-21)

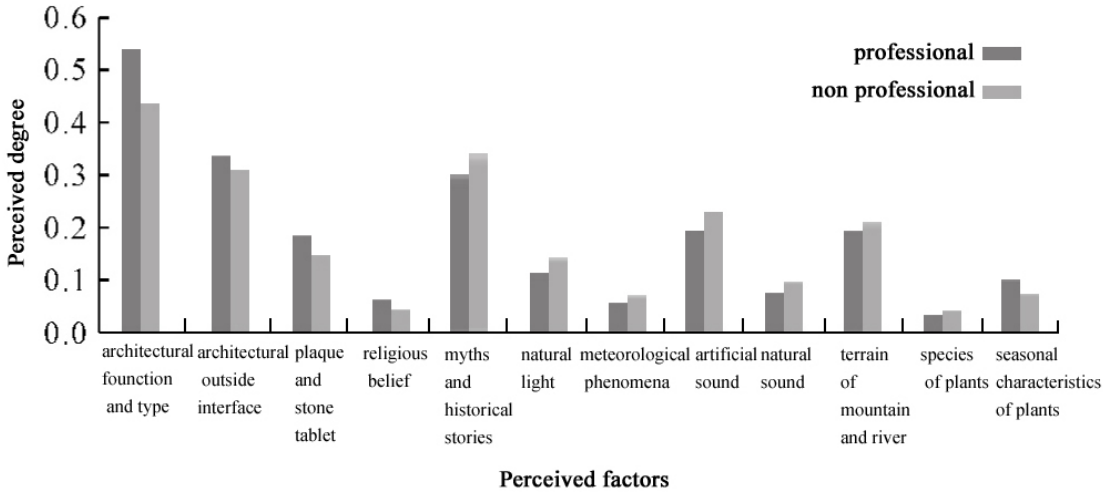


Fig.5-21 The different results of perception levels based on the subjects' professional background

The respondents were divided into local residents, temporarily citizens and tourists. Local residents prefer natural environment, and in the course of questionnaire, they mainly gather in vicinity of the yard of lotuses viewing the landscape, and tourists are more interested in famous architectures, such as the Leifeng Pagoda, the Broken Bridge, etc., and these questionnaires were collected in these nodes. It indicates that tourists have a strong perception in more famous imagery factor. (Fig. 5-22)

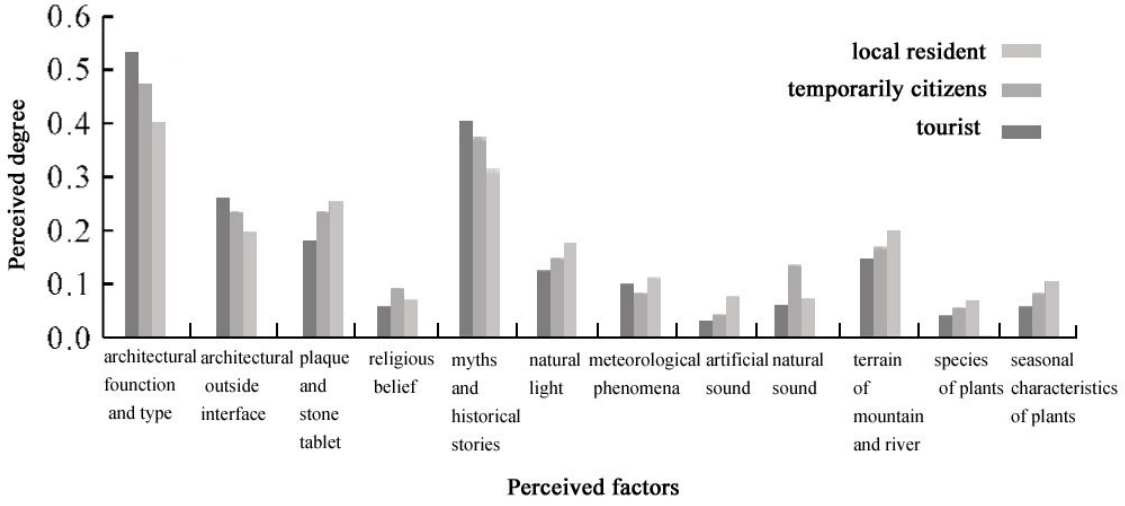


Fig.5-22 The different results of perception levels based on the subjects' region

Appendix 1 The space syntax data statistical of landscape

(1) The space syntax data statistical of Biasha Lao village

Index	Connectivity	Integration [HH]	Mean Depth	Total Depth
1	2	0.416793	14.52577	4227
2	2	0.448345	13.57388	3950
3	2	0.52834	11.6701	3396
4	2	0.58009	10.71821	3119
5	2	0.485067	12.62199	3673
6	4	0.643584	9.75945	2840
7	7	0.717941	8.852234	2576
8	5	0.862964	7.532646	2192
9	3	0.653584	9.625429	2801
10	3	0.717941	8.852234	2576
11	3	0.600474	10.38832	3023
12	4	0.5561	11.13746	3241
13	4	0.56047	11.05842	3218
14	1	0.509946	12.05498	3508
15	4	0.894003	7.305842	2126
16	2	0.780445	8.223368	2393
17	3	0.699273	9.061855	2637
18	2	0.639071	9.821306	2858
19	3	0.640818	9.797251	2851
20	5	0.720147	8.828178	2569
21	3	0.69749	9.082474	2643
22	3	0.512335	12.00344	3493
23	1	0.469787	13	3783
24	3	0.580295	10.71478	3118
25	2	0.493382	12.42612	3616
26	3	0.577436	10.76289	3132
27	3	0.538751	11.46392	3336
28	3	0.588835	10.57388	3077
29	4	0.706501	8.979382	2613
30	3	0.643836	9.756014	2839
31	5	0.852205	7.61512	2216
32	6	0.778224	8.243986	2399
33	4	0.705893	8.986255	2615
34	2	0.659894	9.542955	2777
35	5	0.937962	7.010309	2040
36	5	0.7887	8.147766	2371

37	3	0.936356	7.020618	2043
38	3	0.917503	7.14433	2079
39	3	0.898409	7.274914	2117
40	5	0.881513	7.395189	2152
41	4	0.777855	8.247422	2400
42	5	0.641069	9.793815	2850
43	2	0.594598	10.4811	3050
44	4	0.699572	9.058419	2636
45	3	0.558562	11.09278	3228
46	3	0.594167	10.48797	3052
47	1	0.348819	17.16151	4994
48	2	0.371742	16.16495	4704
49	3	0.397696	15.17526	4416
50	3	0.426768	14.20962	4135
51	2	0.459522	13.26804	3861
52	2	0.497421	12.33333	3589
53	5	0.541775	11.4055	3319
54	1	0.363585	16.50516	4803
55	2	0.388559	15.50859	4513
56	3	0.417004	14.5189	4225
57	6	0.820658	7.869416	2290
58	8	0.742642	8.591065	2500
59	2	0.661223	9.525773	2772
60	3	0.681269	9.274914	2699
61	2	0.664168	9.487972	2761
62	2	0.673992	9.364262	2725
63	4	0.64157	9.786942	2848
64	4	0.625189	10.01718	2915
65	3	0.694831	9.113402	2652
66	3	0.684681	9.233677	2687
67	7	0.808524	7.972508	2320
68	4	0.843009	7.687285	2237
69	4	0.740964	8.608248	2505
70	5	0.642576	9.773196	2844
71	4	0.704983	8.996564	2618
72	7	0.833585	7.762887	2259
73	5	0.807728	7.979382	2322
74	3	0.749427	8.522337	2480
75	5	0.68411	9.24055	2689
76	4	0.625189	10.01718	2915
77	4	0.565688	10.96564	3191
78	2	0.514746	11.95189	3478
79	3	0.514907	11.94845	3477

80	5	0.579476	10.72852	3122
81	3	0.538044	11.47766	3340
82	5	0.537163	11.49485	3345
83	2	0.534363	11.54983	3361
84	3	0.498177	12.31615	3584
85	2	0.529363	11.64949	3390
86	3	0.572599	10.84536	3156
87	5	0.622343	10.05842	2927
88	2	0.580501	10.71134	3117
89	2	0.52868	11.66323	3394
90	2	0.485354	12.61512	3671
91	2	0.44859	13.56701	3948
92	4	0.469921	12.99656	3782
93	2	0.612125	10.20962	2971
94	2	0.5531	11.19244	3257
95	2	0.504147	12.18213	3545
96	1	0.462894	13.17869	3835
97	3	0.748743	8.52921	2482
98	4	0.681269	9.274914	2699
99	4	0.622343	10.05842	2927
100	3	0.574403	10.81443	3147
101	3	0.530561	11.62543	3383
102	2	0.487662	12.56014	3655
103	2	0.451181	13.49485	3927
104	2	0.595894	10.46048	3044
105	2	0.542313	11.39519	3316
106	2	0.498177	12.31615	3584
107	2	0.461591	13.21306	3845
108	2	0.432506	14.03437	4084
109	2	0.412081	14.68041	4272
110	2	0.3953	15.26117	4441
111	2	0.397503	15.18213	4418
112	2	0.419779	14.42955	4199
113	4	0.561813	11.03437	3211
114	4	0.61304	10.19588	2967
115	2	0.349413	17.13402	4986
116	3	0.397889	15.16839	4414
117	3	0.372248	16.14433	4698
118	3	0.349488	17.13059	4985
119	1	0.329152	18.12715	5275
120	1	0.576219	10.78351	3138
121	2	0.597848	10.42955	3035
122	4	0.652804	9.635738	2804

123	1	0.585264	10.6323	3094
124	1	0.585264	10.6323	3094
125	3	0.731711	8.704468	2533
126	1	0.707415	8.969072	2610
127	1	0.626861	9.993127	2908
128	2	0.685539	9.223368	2684
129	3	0.769102	8.329897	2424
130	1	0.511058	12.03093	3501
131	2	0.553473	11.18557	3255
132	1	0.451678	13.4811	3923
133	4	0.515069	11.94502	3476
134	2	0.525968	11.71821	3410
135	6	0.670137	9.412371	2739
136	6	0.70468	9	2619
137	3	0.644595	9.745705	2836
138	1	0.57703	10.76976	3134
139	1	0.647905	9.701031	2823
140	4	0.64893	9.687285	2819
141	3	0.731058	8.71134	2535
142	3	0.737965	8.639175	2514
143	5	0.611669	10.2165	2973
144	3	0.692484	9.140894	2660
145	3	0.576624	10.77663	3136
146	2	0.617424	10.13058	2948
147	2	0.734002	8.680412	2526
148	2	0.576624	10.77663	3136
149	2	0.524287	11.75258	3420
150	1	0.707415	8.969072	2610
151	3	0.434568	13.97251	4066
152	2	0.434338	13.97938	4068
153	4	0.509787	12.05842	3509
154	3	0.468178	13.04124	3795
155	3	0.758786	8.429553	2453
156	4	0.683255	9.250859	2692
157	1	0.560661	11.05498	3217
158	3	0.675657	9.343642	2719
159	1	0.651766	9.649485	2808
160	2	0.531765	11.60138	3376
161	1	0.490579	12.49141	3635
162	1	0.610303	10.23711	2979
163	2	0.611897	10.21306	2972
164	2	0.602459	10.35739	3014
165	2	0.434108	13.98626	4070

166	1	0.403169	14.98282	4360
167	3	0.509312	12.06873	3512
168	1	0.582149	10.68385	3109
169	2	0.658041	9.56701	2784
170	2	0.656986	9.580756	2788
171	2	0.656986	9.580756	2788
172	2	0.488243	12.54639	3651
173	4	0.563357	11.00687	3203
174	4	0.70925	8.948454	2604
175	1	0.630233	9.945017	2894
176	1	0.630233	9.945017	2894
177	1	0.706805	8.975946	2612
178	2	0.7192	8.838488	2572
179	3	0.57541	10.79725	3142
180	2	0.639569	9.814433	2856
181	1	0.707415	8.969072	2610
182	1	0.707415	8.969072	2610
183	1	0.57703	10.76976	3134
184	4	0.468445	13.03437	3793
185	1	0.43262	14.03093	4083
186	1	0.43262	14.03093	4083
187	2	0.46658	13.08247	3807
188	4	0.431709	14.05842	4091
189	2	0.555347	11.1512	3245
190	2	0.507265	12.1134	3525
191	1	0.511058	12.03093	3501
192	1	0.560661	11.05498	3217
193	3	0.512975	11.98969	3489
194	1	0.467244	13.06529	3802
195	2	0.467511	13.05842	3800
196	1	0.551984	11.21306	3263
197	1	0.551984	11.21306	3263
198	1	0.551984	11.21306	3263
199	1	0.504147	12.18213	3545
200	1	0.401099	15.05498	4381
201	1	0.401099	15.05498	4381
202	1	0.401099	15.05498	4381
203	1	0.511058	12.03093	3501
204	1	0.471949	12.94502	3767
205	1	0.471949	12.94502	3767
206	1	0.472085	12.94158	3766
207	2	0.490872	12.48454	3633
208	1	0.652804	9.635738	2804

209	1	0.556666	11.12715	3238
210	1	0.523284	11.7732	3426
211	1	0.523284	11.7732	3426
212	3	0.736639	8.652921	2518
213	1	0.522284	11.79382	3432
214	4	0.669317	9.422681	2742
215	1	0.598502	10.41924	3032
216	2	0.563357	11.00687	3203
217	1	0.512335	12.00344	3493
218	2	0.577436	10.76289	3132
219	3	0.524958	11.73883	3416
220	1	0.480379	12.7354	3706
221	3	0.732364	8.697595	2531
222	4	0.562777	11.01718	3206
223	3	0.623288	10.04467	2923
224	1	0.494423	12.40206	3609
225	4	0.49712	12.34021	3591
226	4	0.458495	13.29553	3869
227	2	0.457217	13.3299	3879
228	2	0.424339	14.28522	4157
229	2	0.424779	14.27148	4153
230	2	0.424779	14.27148	4153
231	1	0.347268	17.23368	5015
232	2	0.369981	16.23711	4725
233	3	0.395681	15.24742	4437
234	3	0.52783	11.68041	3399
235	3	0.490432	12.49485	3636
236	1	0.451305	13.49141	3926
237	1	0.482783	12.67698	3689
238	2	0.710171	8.938145	2601
239	3	0.524623	11.74571	3418
240	1	0.480098	12.74227	3708
241	3	0.789839	8.137457	2368
242	2	0.684681	9.233677	2687
243	3	0.666868	9.453609	2751
244	3	0.602017	10.36426	3016
245	3	0.632907	9.907216	2883
246	2	0.638573	9.828178	2860
247	5	0.760898	8.408935	2447
248	3	0.700169	9.051546	2634
249	5	0.705286	8.993127	2617
250	3	0.774915	8.274914	2408
251	1	0.62758	9.982818	2905

252	2	0.562199	11.02749	3209
253	2	0.512175	12.00687	3494
254	1	0.526306	11.71134	3408
255	1	0.479817	12.74914	3710
256	1	0.789459	8.140894	2369
257	1	0.65515	9.604811	2795
258	1	0.670685	9.405499	2737
259	1	0.627101	9.989691	2907
260	1	0.670685	9.405499	2737
261	1	0.627101	9.989691	2907
262	2	0.589047	10.57045	3076
263	2	0.56297	11.01375	3205
264	2	0.623762	10.0378	2921
265	2	0.630717	9.938145	2892
266	1	0.567449	10.93471	3182
267	1	0.522284	11.79382	3432
268	1	0.582149	10.68385	3109
269	2	0.583391	10.66323	3103
270	1	0.431823	14.05498	4090
271	1	0.432392	14.0378	4085
272	1	0.432392	14.0378	4085
273	3	0.403963	14.95533	4352
274	3	0.403963	14.95533	4352
275	1	0.377039	15.95189	4642
276	2	0.468847	13.02406	3790
277	4	0.510263	12.04811	3506
278	2	0.644849	9.742268	2835
279	2	0.518816	11.86598	3453
280	1	0.481225	12.71478	3700
281	2	0.61696	10.13746	2950
282	2	0.59245	10.51546	3060
283	1	0.610758	10.23024	2977
284	1	0.74063	8.611684	2506
285	1	0.74063	8.611684	2506
286	1	0.638822	9.824742	2859
287	1	0.472085	12.94158	3766
288	1	0.512335	12.00344	3493
289	1	0.470325	12.98626	3779
290	1	0.470325	12.98626	3779
291	1	0.598502	10.41924	3032
292	1	0.456962	13.33677	3881

(2) The space syntax data statistical of Biasha Zaigexin village

Index	Connectivity	Integration [HH]	Mean Depth	Total Depth
1	2	0.301034	20.68627	7385
2	2	0.286676	21.67227	7737
3	1	0.261516	23.66106	8447
4	2	0.273554	22.66387	8091
5	5	0.579317	11.22969	4009
6	2	0.528256	12.21849	4362
7	3	0.579159	11.23249	4010
8	3	0.624459	10.4902	3745
9	3	0.748909	8.913165	3182
10	6	0.569034	11.41457	4075
11	4	0.530109	12.17927	4348
12	2	0.470253	13.60224	4856
13	2	0.44852	14.21289	5074
14	3	0.482698	13.27731	4740
15	7	0.638403	10.28291	3671
16	8	0.552826	11.71989	4184
17	3	0.599	10.89356	3889
18	3	0.558076	11.61905	4148
19	5	0.523291	12.32493	4400
20	5	0.487931	13.14566	4693
21	4	0.45557	14.0084	5001
22	2	0.425003	14.94398	5335
23	2	0.398131	15.88515	5671
24	2	0.427407	14.86555	5307
25	3	0.427494	14.86275	5306
26	5	0.455374	14.01401	5003
27	3	0.511031	12.59664	4497
28	3	0.481161	13.31653	4754
29	2	0.399408	15.83754	5654
30	2	0.35267	17.80392	6356
31	2	0.374653	16.81793	6004
32	2	0.333019	18.79552	6710
33	1	0.315348	19.79272	7066
34	3	0.478333	13.38936	4780
35	1	0.527861	12.22689	4365
36	2	0.57679	11.27451	4025
37	1	0.525762	12.27171	4381
38	2	0.374322	16.83193	6009
39	2	0.353082	17.78431	6349
40	2	0.334017	18.7423	6691
41	3	0.316811	19.70588	7035

42	1	0.286365	21.69468	7745
43	2	0.300863	20.69748	7389
44	2	0.506504	12.70028	4534
45	2	0.467138	13.68628	4886
46	2	0.433272	14.67787	5240
47	1	0.40383	15.67507	5596
48	4	0.598153	10.90756	3894
49	2	0.544713	11.87955	4241
50	2	0.500276	12.84594	4586
51	2	0.462542	13.81233	4931
52	2	0.430451	14.76751	5272
53	3	0.463555	13.78431	4921
54	2	0.463048	13.79832	4926
55	3	0.501581	12.81513	4575
56	4	0.599679	10.88235	3885
57	2	0.54626	11.84874	4230
58	5	0.703113	9.428572	3366
59	1	0.628727	10.42577	3722
60	2	0.629475	10.41457	3718
61	2	0.629475	10.41457	3718
62	3	0.644431	10.19608	3640
63	3	0.672922	9.806723	3501
64	7	0.794467	8.459384	3020
65	4	0.749705	8.904762	3179
66	3	0.700552	9.459384	3377
67	2	0.70032	9.462185	3378
68	2	0.506504	12.70028	4534
69	1	0.505777	12.71709	4540
70	3	0.484911	13.22129	4720
71	3	0.526547	12.2549	4375
72	4	0.508574	12.65266	4517
73	1	0.468482	13.64986	4873
74	4	0.450909	14.14286	5049
75	3	0.476609	13.43417	4796
76	1	0.450909	14.14286	5049
77	4	0.484467	13.23249	4724
78	7	0.818123	8.243697	2943
79	2	0.719859	9.232493	3296
80	3	0.772141	8.67507	3097
81	4	0.478117	13.39496	4782
82	4	0.519309	12.41177	4431
83	3	0.567507	11.44258	4085
84	2	0.62409	10.4958	3747

85	10	0.692753	9.554622	3411
86	9	0.656021	10.03361	3582
87	4	0.612349	10.67787	3812
88	2	0.566747	11.45658	4090
89	5	0.527993	12.22409	4364
90	4	0.703347	9.425771	3365
91	1	0.628914	10.42297	3721
92	4	0.702179	9.439776	3370
93	4	0.718393	9.2493	3302
94	3	0.6415	10.2381	3655
95	1	0.627981	10.43698	3726
96	3	0.751035	8.890757	3174
97	4	0.721332	9.215686	3290
98	2	0.644039	10.20168	3642
99	2	0.684239	9.661064	3449
100	2	0.659497	9.985994	3565
101	2	0.442701	14.38656	5136
102	3	0.518546	12.42857	4437
103	3	0.694572	9.532213	3403
104	4	0.735628	9.056023	3233
105	2	0.642279	10.22689	3651
106	9	0.60036	10.87115	3881
107	4	0.557341	11.63305	4153
108	5	0.53507	12.07563	4311
109	2	0.491102	13.06723	4665
110	2	0.477793	13.40336	4785
111	2	0.477901	13.40056	4784
112	1	0.476931	13.42577	4793
113	1	0.476931	13.42577	4793
114	3	0.621159	10.54062	3763
115	1	0.562378	11.53782	4119
116	1	0.562378	11.53782	4119
117	4	0.564178	11.5042	4107
118	4	0.622072	10.52661	3758
119	2	0.563577	11.51541	4111
120	1	0.515262	12.5014	4463
121	2	0.563427	11.51821	4112
122	2	0.620794	10.54622	3765
123	4	0.622621	10.51821	3755
124	7	0.59279	10.9972	3926
125	4	0.638788	10.27731	3669
126	2	0.577735	11.2577	4019
127	1	0.539023	11.9944	4282

128	1	0.539023	11.9944	4282
129	2	0.577262	11.26611	4022
130	1	0.539023	11.9944	4282
131	4	0.594122	10.97479	3918
132	4	0.59279	10.9972	3926
133	6	0.541784	11.93838	4262
134	1	0.539023	11.9944	4282
135	2	0.539849	11.97759	4276
136	1	0.496519	12.93558	4618
137	1	0.496519	12.93558	4618
138	1	0.496519	12.93558	4618
139	1	0.540124	11.97199	4274
140	4	0.592126	11.0084	3930
141	3	0.538886	11.9972	4283
142	1	0.494084	12.9944	4639
143	2	0.538749	12	4284
144	1	0.538475	12.0056	4286
145	4	0.528652	12.21008	4359
146	1	0.485467	13.20728	4715
147	1	0.485467	13.20728	4715
148	2	0.547675	11.82073	4220
149	5	0.594622	10.96639	3915
150	5	0.593955	10.97759	3919
151	1	0.540538	11.96359	4271
152	1	0.540538	11.96359	4271
153	1	0.539986	11.97479	4275
154	1	0.539986	11.97479	4275
155	1	0.539986	11.97479	4275
156	1	0.508452	12.65546	4518
157	2	0.508696	12.64986	4516
158	3	0.556023	11.65826	4162
159	1	0.468586	13.64706	4872
160	2	0.630225	10.40336	3714
161	2	0.577893	11.2549	4018
162	3	0.543454	11.90476	4250
163	5	0.820026	8.226891	2937
164	5	0.82805	8.156863	2912
165	7	0.752639	8.87395	3168
166	2	0.620794	10.54622	3765
167	3	0.621524	10.53501	3761
168	2	0.562977	11.52661	4115
169	2	0.563877	11.5098	4109
170	1	0.719125	9.240896	3299

171	1	0.442516	14.39216	5138
172	3	0.80689	8.344538	2979
173	4	0.782421	8.574229	3061
174	2	0.728285	9.137255	3262
175	3	0.649575	10.12325	3614
176	1	0.585571	11.12045	3970
177	1	0.585571	11.12045	3970
178	4	0.68446	9.658263	3448
179	2	0.614841	10.63866	3798
180	2	0.557782	11.62465	4150
181	2	0.510168	12.61625	4504
182	1	0.469835	13.61345	4860
183	2	0.669303	9.854342	3518
184	2	0.602239	10.84034	3870
185	2	0.547108	11.83193	4224
186	1	0.500987	12.82913	4580
187	4	0.598153	10.90756	3894
188	5	0.662388	9.946778	3551
189	4	0.547108	11.83193	4224
190	7	0.546825	11.83754	4226
191	3	0.545416	11.86555	4236
192	2	0.499803	12.85714	4590
193	2	0.500987	12.82913	4580
194	4	0.59883	10.89636	3890
195	1	0.50075	12.83473	4582
196	2	0.655208	10.04482	3586
197	4	0.733588	9.078431	3241
198	2	0.655208	10.04482	3586
199	2	0.5481	11.81233	4217
200	2	0.50397	12.7591	4555
201	2	0.466211	13.71149	4895
202	2	0.433538	14.66947	5237
203	2	0.545556	11.86275	4235
204	1	0.499685	12.85994	4591
205	5	0.718881	9.243697	3300
206	2	0.641695	10.23529	3654
207	4	0.706164	9.392157	3353
208	2	0.631542	10.38375	3707
209	4	0.560293	11.57703	4133
210	3	0.524329	12.30252	4392
211	2	0.556023	11.65826	4162
212	1	0.51202	12.57423	4489
213	4	0.564931	11.4902	4102

214	1	0.51589	12.4874	4458
215	1	0.446437	14.27451	5096
216	3	0.498038	12.89916	4605
217	3	0.529844	12.18487	4350
218	4	0.520075	12.39496	4425
219	2	0.45139	14.12885	5044
220	3	0.423642	14.9888	5351
221	1	0.395452	15.98599	5707
222	2	0.445873	14.29132	5102
223	1	0.468482	13.64986	4873
224	2	0.506504	12.70028	4534
225	1	0.505777	12.71709	4540
226	1	0.510168	12.61625	4504
227	1	0.484911	13.22129	4720
228	1	0.484911	13.22129	4720
229	4	0.49133	13.06163	4663
230	4	0.457244	13.96078	4984
231	6	0.427407	14.86555	5307
232	8	0.440764	14.44538	5157
233	4	0.418944	15.14566	5407
234	2	0.3915	16.13726	5761
235	1	0.410331	15.44258	5513
236	1	0.410331	15.44258	5513
237	1	0.410331	15.44258	5513
238	4	0.640141	10.2577	3662
239	2	0.58315	11.16247	3985
240	2	0.535747	12.06163	4306
241	1	0.398731	15.86275	5663
242	3	0.418778	15.15126	5409
243	2	0.42603	14.91036	5323
244	2	0.45557	14.0084	5001
245	1	0.367303	17.13446	6117
246	4	0.467861	13.66667	4879
247	1	0.433716	14.66387	5235
248	2	0.498038	12.89916	4605
249	3	0.437392	14.54902	5194
250	1	0.407407	15.54622	5550
251	3	0.318529	19.60504	6999
252	2	0.302454	20.59384	7352
253	3	0.302541	20.58824	7350
254	2	0.287963	21.57983	7704
255	1	0.274655	22.57703	8060
256	2	0.33614	18.63025	6651

257	2	0.355694	17.66106	6305
258	3	0.377528	16.69748	5961
259	1	0.354621	17.71149	6323
260	3	0.377124	16.71429	5967
261	3	0.491558	13.05602	4661
262	2	0.457738	13.94678	4979
263	2	0.428099	14.84314	5299
264	4	0.401912	15.7451	5621
265	2	0.377259	16.70868	5965
266	2	0.355335	17.67787	6311
267	3	0.335714	18.65266	6659
268	2	0.317906	19.64146	7012
269	3	0.318002	19.63586	7010
270	2	0.301936	20.62745	7364
271	1	0.287338	21.62465	7720
272	2	0.474046	13.5014	4820
273	2	0.514636	12.51541	4468
274	2	0.562528	11.53501	4118
275	3	0.619885	10.56023	3770
276	3	0.666352	9.893558	3532
277	2	0.551098	11.7535	4196
278	3	0.55355	11.70588	4179
279	4	0.535612	12.06443	4307
280	1	0.49133	13.06163	4663
281	1	0.49133	13.06163	4663
282	3	0.566444	11.46219	4092
283	5	0.579794	11.22129	4006
284	1	0.528256	12.21849	4362
285	1	0.528256	12.21849	4362
286	2	0.546543	11.84314	4228
287	2	0.59279	10.9972	3926
288	9	0.640723	10.2493	3659
289	1	0.578367	11.2465	4015
290	1	0.578367	11.2465	4015
291	1	0.578367	11.2465	4015
292	4	0.633623	10.35294	3696
293	2	0.545556	11.86275	4235
294	1	0.545275	11.86835	4237
295	1	0.499685	12.85994	4591
296	3	0.53372	12.10364	4321
297	2	0.543873	11.89636	4247
298	3	0.555439	11.66947	4166
299	2	0.58315	11.16247	3985

300	2	0.668457	9.865546	3522
301	2	0.601554	10.85154	3874
302	3	0.66888	9.859944	3520
303	1	0.601213	10.85714	3876
304	1	0.668035	9.871148	3524
305	1	0.490874	13.07283	4667
306	3	0.491216	13.06443	4664
307	1	0.453714	14.06163	5020
308	1	0.44795	14.22969	5080
309	7	0.45284	14.08684	5029
310	4	0.42128	15.06723	5379
311	2	0.420944	15.07843	5383
312	1	0.393393	16.06443	5735
313	1	0.393393	16.06443	5735
314	1	0.393101	16.07563	5739
315	1	0.393393	16.06443	5735
316	1	0.44795	14.22969	5080
317	2	0.430977	14.7507	5266
318	4	0.467344	13.68067	4884
319	1	0.433272	14.67787	5240
320	1	0.433272	14.67787	5240
321	1	0.578367	11.2465	4015
322	4	0.691394	9.571428	3417
323	5	0.623539	10.5042	3750
324	1	0.564328	11.5014	4106
325	1	0.564328	11.5014	4106
326	1	0.564328	11.5014	4106
327	1	0.507963	12.66667	4522
328	1	0.489738	13.10084	4677
329	1	0.578367	11.2465	4015
330	2	0.580271	11.21289	4003
331	1	0.61934	10.56863	3773
332	1	0.420777	15.08403	5385
333	1	0.420777	15.08403	5385
334	1	0.423133	15.0056	5357
335	2	0.501819	12.80952	4573
336	4	0.546825	11.83754	4226
337	2	0.501343	12.82073	4577
338	3	0.720595	9.22409	3293
339	1	0.579	11.23529	4011
340	2	0.641306	10.2409	3656
341	1	0.543454	11.90476	4250
342	1	0.576476	11.28011	4027

343	2	0.519692	12.40336	4428
344	1	0.420777	15.08403	5385
345	1	0.420777	15.08403	5385
346	3	0.604131	10.80952	3859
347	2	0.651777	10.09244	3603
348	2	0.40499	15.63305	5581
349	2	0.379832	16.60224	5927
350	2	0.357497	17.57703	6275
351	2	0.337535	18.55742	6625
352	2	0.319587	19.54342	6977
353	2	0.303365	20.53501	7331
354	1	0.288631	21.53221	7687
355	3	0.677013	9.753501	3482
356	2	0.793871	8.464986	3022
357	2	0.439208	14.493	5174
358	1	0.408983	15.4902	5530

(3) The space syntax data statistical of drum-tower node in Dong village

Index	Connectivity	Integration[HH]	Mean Depth	Total Depth
1	3	0.655427	6.848101	541
2	3	0.671413	6.708861	530
3	3	0.764665	6.012658	475
4	2	0.659711	6.810127	538
5	3	0.758915	6.050633	478
6	1	0.634816	7.037975	556
7	3	0.898538	5.265823	416
8	4	1.066222	4.594937	363
9	4	0.914825	5.189873	410
10	4	0.949239	5.037975	398
11	4	0.895879	5.278481	417
12	4	0.890609	5.303797	419
13	5	1.044163	4.670886	369
14	5	1.173671	4.265823	337
15	5	1.173671	4.265823	337
16	4	1.044163	4.670886	369
17	2	0.827342	5.632911	445
18	1	0.681998	6.620253	523
19	3	0.574587	7.670886	606
20	2	0.555609	7.898734	624
21	4	0.628231	7.101266	561
22	4	0.634816	7.037975	556
23	4	0.731418	6.240506	493
24	4	0.872643	5.392405	426
25	3	0.738554	6.189873	489
26	3	0.870136	5.405063	427
27	4	1.055077	4.632911	366
28	4	0.628231	7.101266	561
29	2	0.72269	6.303797	498
30	3	0.937483	5.088608	402
31	1	0.75513	6.075949	480
32	3	0.747672	6.126582	484
33	3	0.747672	6.126582	484
34	3	0.72269	6.303797	498
35	4	0.903902	5.240506	414
36	6	1.08533	4.531646	358
37	2	0.860248	5.455696	431
38	5	0.979958	4.911392	388
39	1	0.782447	5.898734	466
40	2	0.818398	5.683544	449
41	3	0.88282	5.341772	422
42	4	1.164643	4.291139	339

43	5	1.201616	4.189873	331
44	1	0.724419	6.291139	497
45	3	1.029956	4.721519	373
46	4	1.220997	4.139241	327
47	6	1.283081	3.987342	315
48	3	1.220997	4.139241	327
49	4	1.201616	4.189873	331
50	4	1.093167	4.506329	356
51	4	1.08533	4.531646	358
52	3	0.923193	5.151899	407
53	5	0.813998	5.708861	451
54	2	0.62306	7.151899	565
55	3	0.72269	6.303797	498
56	4	0.809645	5.734177	453
57	2	0.75513	6.075949	480
58	3	0.875165	5.379747	425
59	3	0.736757	6.202532	490
60	1	0.672905	6.696203	529
61	1	0.619238	7.189873	568
62	2	0.809645	5.734177	453
63	4	0.946272	5.050633	399
64	5	1.066222	4.594937	363
65	4	1.012733	4.78481	378
66	4	1.062481	4.607595	364
67	2	0.659711	6.810127	538
68	2	0.848199	5.518987	436
69	2	1.033472	4.708861	372
70	7	1.142669	4.35443	344
71	1	0.60927	7.291139	576
72	3	0.946272	5.050633	399
73	4	1.196866	4.202532	332
74	2	0.734969	6.21519	491
75	2	0.620506	7.177215	567
76	1	0.534995	8.164557	645
77	3	1.055077	4.632911	366
78	3	1.206403	4.177215	330
79	7	1.339855	3.86076	305
80	2	1.08533	4.531646	358

(4) The space syntax data statistical of Summer Palace

Index	Connectivity	Integration[HH]	Mean Depth	Total Depth
1	5	0.492527	13.85474	6581
2	2	0.459211	14.78737	7024
3	2	0.430794	15.69684	7456
4	2	0.406347	16.58105	7876
5	4	0.393841	17.07579	8111
6	2	0.370868	18.07158	8584
7	2	0.370868	18.07158	8584
8	4	0.410171	16.43579	7807
9	2	0.387798	17.32632	8230
10	2	0.37096	18.06737	8582
11	2	0.356746	18.74737	8905
12	3	0.366932	18.25474	8671
13	4	0.387348	17.34526	8239
14	3	0.366306	18.28421	8685
15	2	0.347995	19.19368	9117
16	2	0.350428	19.06737	9057
17	2	0.364707	18.36	8721
18	2	0.382666	17.54526	8334
19	3	0.404652	16.64632	7907
20	3	0.42531	15.88632	7546
21	3	0.446993	15.16421	7203
22	1	0.390415	17.21684	8178
23	2	0.416015	16.21895	7704
24	3	0.445075	15.22526	7232
25	3	0.476	14.30105	6793
26	3	0.510849	13.39368	6362
27	1	0.472783	14.39158	6836
28	4	0.551305	12.48421	5930
29	1	0.348762	19.15369	9098
30	3	0.369048	18.15579	8624
31	4	0.369229	18.14737	8620
32	2	0.349004	19.14105	9092
33	1	0.330807	20.13895	9566
34	2	0.391126	17.18737	8164
35	3	0.41613	16.21474	7702
36	4	0.41636	16.20632	7698
37	2	0.39133	17.17895	8160
38	2	0.390923	17.19579	8168
39	2	0.368776	18.16842	8630
40	2	0.349085	19.13684	9090
41	3	0.444417	15.24632	7242

42	6	0.476076	14.29895	6792
43	2	0.468511	14.51368	6894
44	2	0.482028	14.13474	6714
45	6	0.517264	13.24	6289
46	2	0.479644	14.2	6745
47	3	0.450407	15.05684	7152
48	3	0.438712	15.43158	7330
49	2	0.430917	15.69263	7454
50	3	0.420906	16.04211	7620
51	3	0.430116	15.72	7467
52	4	0.45879	14.8	7030
53	6	0.431474	15.67368	7445
54	2	0.405088	16.62947	7899
55	3	0.381646	17.58947	8355
56	2	0.360596	18.5579	8815
57	3	0.341669	19.53053	9277
58	3	0.324455	20.51368	9744
59	3	0.324455	20.51368	9744
60	2	0.308797	21.50316	10214
61	2	0.29458	22.49263	10684
62	2	0.29458	22.49263	10684
63	2	0.308797	21.50316	10214
64	1	0.410059	16.44	7809
65	2	0.392095	17.14737	8145
66	2	0.413953	16.29474	7740
67	3	0.438392	15.44211	7335
68	3	0.46597	14.58737	6929
69	3	0.434466	15.57263	7397
70	2	0.324805	20.49263	9734
71	2	0.337679	19.74947	9381
72	2	0.351945	18.98947	9020
73	3	0.37243	18	8550
74	2	0.356492	18.76	8911
75	4	0.342174	19.50316	9264
76	2	0.324805	20.49263	9734
77	2	0.309051	21.48632	10206
78	1	0.294696	22.48421	10680
79	1	0.339662	19.64	9329
80	2	0.358875	18.64211	8855
81	2	0.380295	17.64842	8383
82	2	0.404325	16.65895	7913
83	3	0.428461	15.77684	7494
84	3	0.42688	15.83158	7520

85	3	0.454973	14.91579	7085
86	2	0.383789	17.49684	8311
87	4	0.407006	16.55579	7864
88	3	0.405689	16.60632	7888
89	2	0.381694	17.58737	8354
90	2	0.373633	17.94526	8524
91	2	0.394979	17.02947	8089
92	3	0.396646	16.96211	8057
93	2	0.402109	16.74526	7954
94	2	0.41163	16.38105	7781
95	3	0.42274	15.97684	7589
96	3	0.421082	16.03579	7617
97	3	0.460335	14.75368	7008
98	2	0.432528	15.6379	7428
99	4	0.448794	15.10737	7176
100	3	0.466621	14.56842	6920
101	2	0.497333	13.73053	6522
102	2	0.501981	13.61263	6466
103	3	0.481102	14.16	6726
104	2	0.547193	12.57053	5971
105	3	0.539923	12.72632	6045
106	4	0.534644	12.84211	6100
107	3	0.52503	13.05895	6203
108	2	0.491641	13.87789	6592
109	2	0.469169	14.49474	6885
110	3	0.439353	15.41053	7320
111	3	0.450677	15.04842	7148
112	2	0.429686	15.73474	7474
113	2	0.414467	16.27579	7731
114	2	0.40362	16.68632	7926
115	3	0.394461	17.05053	8099
116	3	0.365016	18.34526	8714
117	4	0.384722	17.45684	8292
118	3	0.406182	16.58737	7879
119	2	0.369229	18.14737	8620
120	2	0.369048	18.15579	8624
121	2	0.371464	18.04421	8571
122	2	0.380921	17.62105	8370
123	2	0.391534	17.17053	8156
124	3	0.449264	15.09263	7169
125	4	0.445536	15.21053	7225
126	2	0.426698	15.83789	7523
127	2	0.465177	14.61053	6940

128	2	0.487576	13.98526	6643
129	3	0.513116	13.33895	6336
130	2	0.479033	14.21684	6753
131	2	0.445933	15.1979	7219
132	2	0.416995	16.18316	7687
133	2	0.391483	17.17263	8157
134	1	0.348559	19.16421	9103
135	2	0.368822	18.16632	8629
136	1	0.397958	16.90947	8032
137	3	0.42459	15.91158	7558
138	3	0.454698	14.92421	7089
139	4	0.42489	15.90105	7553
140	2	0.42471	15.90737	7556
141	4	0.454904	14.91789	7086
142	2	0.502149	13.60842	6464
143	7	0.489242	13.94105	6622
144	3	0.471596	14.42526	6852
145	4	0.447725	15.14105	7192
146	2	0.439546	15.40421	7317
147	4	0.463385	14.66316	6965
148	3	0.439738	15.3979	7314
149	2	0.418329	16.13474	7664
150	3	0.426396	15.84842	7528
151	2	0.415096	16.25263	7720
152	3	0.456631	14.86526	7061
153	4	0.443696	15.26947	7253
154	3	0.405361	16.61895	7894
155	5	0.427791	15.8	7505
156	4	0.427123	15.82316	7516
157	2	0.408166	16.51158	7843
158	5	0.398486	16.88842	8022
159	3	0.386999	17.36	8246
160	4	0.379192	17.69684	8406
161	2	0.388198	17.30947	8222
162	3	0.406072	16.59158	7881
163	3	0.408666	16.49263	7834
164	4	0.410115	16.4379	7808
165	6	0.40911	16.47579	7826
166	1	0.384328	17.47368	8300
167	1	0.362465	18.46737	8772
168	2	0.384427	17.46947	8298
169	1	0.381743	17.58526	8353
170	2	0.416072	16.21684	7703

171	3	0.421614	16.01684	7608
172	3	0.395759	16.99789	8074
173	5	0.439225	15.41474	7322
174	2	0.429073	15.75579	7484
175	3	0.419965	16.07579	7636
176	1	0.357595	18.70526	8885
177	3	0.378953	17.70737	8411
178	3	0.402378	16.73474	7949
179	5	0.428156	15.78737	7499
180	3	0.441093	15.35368	7293
181	3	0.379335	17.69053	8403
182	2	0.358618	18.65474	8861
183	2	0.33997	19.62316	9321
184	2	0.323095	20.59579	9783
185	2	0.307754	21.57263	10247
186	2	0.293746	22.55368	10713
187	2	0.280905	23.53895	11181
188	2	0.269092	24.52842	11651
189	2	0.258188	25.52211	12123
190	1	0.248092	26.52	12597
191	2	0.403566	16.68842	7927
192	2	0.423454	15.95158	7577
193	4	0.453122	14.97263	7112
194	3	0.458231	14.81684	7038
195	2	0.463957	14.64632	6957
196	4	0.471818	14.41895	6849
197	2	0.439481	15.40632	7318
198	2	0.432653	15.63368	7426
199	3	0.439996	15.38947	7310
200	2	0.427669	15.80421	7507
201	3	0.44187	15.32842	7281
202	2	0.48195	14.13684	6715
203	6	0.616644	11.26737	5352
204	3	0.585319	11.81684	5613
205	2	0.545406	12.60842	5989
206	2	0.511197	13.38526	6358
207	7	0.610262	11.37474	5403
208	4	0.574803	12.01474	5707
209	4	0.528908	12.97053	6161
210	1	0.488209	13.96842	6635
211	2	0.502485	13.6	6460
212	2	0.480872	14.16632	6729
213	2	0.469902	14.47368	6875

214	3	0.560972	12.28632	5836
215	1	0.515402	13.28421	6310
216	3	0.580686	11.90316	5654
217	2	0.532184	12.89684	6126
218	1	0.490999	13.89474	6600
219	2	0.555275	12.40211	5891
220	2	0.533222	12.87368	6115
221	2	0.514168	13.31368	6324
222	4	0.497991	13.71368	6514
223	2	0.46597	14.58737	6929
224	3	0.47049	14.45684	6867
225	2	0.452304	14.99789	7124
226	5	0.436737	15.49684	7361
227	2	0.408721	16.49053	7833
228	1	0.383985	17.48842	8307
229	2	0.423573	15.94737	7575
230	3	0.413271	16.32	7752
231	2	0.403295	16.69895	7932
232	3	0.398538	16.88632	8021
233	3	0.400822	16.79579	7978
234	4	0.402647	16.72421	7944
235	3	0.406896	16.56	7866
236	3	0.39472	17.04	8094
237	2	0.374797	17.89263	8499
238	2	0.356789	18.74526	8904
239	3	0.34047	19.59579	9308
240	2	0.323338	20.58105	9776
241	2	0.307848	21.56632	10244
242	2	0.293775	22.55158	10712
243	2	0.282594	23.40421	11117
244	2	0.329178	20.23369	9611
245	2	0.317669	20.93053	9942
246	2	0.307345	21.6	10260
247	3	0.298321	22.22316	10556
248	2	0.293459	22.57474	10723
249	3	0.289672	22.85684	10857
250	2	0.287018	23.05895	10953
251	2	0.285329	23.18947	11015
252	2	0.284789	23.23158	11035
253	2	0.286389	23.10737	10976
254	2	0.290175	22.81895	10839
255	2	0.294494	22.49895	10687
256	2	0.301793	21.97895	10440

257	2	0.312584	21.25474	10096
258	3	0.325543	20.44842	9713
259	2	0.309847	21.43368	10181
260	2	0.295594	22.41895	10649
261	1	0.284924	23.22105	11030
262	1	0.359992	18.58737	8829
263	4	0.398222	16.89895	8027
264	2	0.417169	16.17684	7684
265	2	0.438264	15.44632	7337
266	4	0.467709	14.53684	6905
267	3	0.464818	14.62105	6945
268	2	0.436547	15.50316	7364
269	2	0.415555	16.23579	7712
270	3	0.398064	16.90526	8030
271	3	0.514784	13.29895	6317
272	3	0.539923	12.72632	6045
273	4	0.560972	12.28632	5836
274	2	0.575243	12.00632	5703
275	3	0.592002	11.69474	5555
276	1	0.556714	12.37263	5877
277	1	0.476831	14.2779	6782
278	2	0.515579	13.28	6308
279	4	0.485608	14.0379	6668
280	2	0.451828	15.01263	7131
281	2	0.423216	15.96	7581
282	2	0.40109	16.78526	7973
283	2	0.3833	17.5179	8321
284	2	0.3672	18.24211	8665
285	2	0.35502	18.83369	8946
286	2	0.375218	17.87368	8490
287	2	0.4521	15.00421	7127
288	2	0.460194	14.7579	7010
289	2	0.356492	18.76	8911
290	2	0.377621	17.76632	8439
291	5	0.401304	16.77684	7969
292	2	0.379335	17.69053	8403
293	4	0.359561	18.60842	8839
294	3	0.340972	19.56842	9295
295	2	0.34101	19.56632	9294
296	5	0.340817	19.57684	9299
297	1	0.323443	20.57474	9773
298	2	0.323582	20.56632	9769
299	3	0.323686	20.56	9766

300	3	0.308101	21.54947	10236
301	1	0.293832	22.54737	10710
302	1	0.293832	22.54737	10710
303	6	0.409891	16.44632	7812
304	5	0.405197	16.62526	7897
305	3	0.371556	18.04	8569
306	3	0.385363	17.42947	8279
307	3	0.381452	17.5979	8359
308	3	0.374984	17.88421	8495
309	3	0.42465	15.90947	7557
310	2	0.441481	15.34105	7287
311	3	0.465393	14.60421	6937
312	3	0.497086	13.73684	6525
313	1	0.332858	20.02105	9510
314	2	0.351287	19.02316	9036
315	3	0.371785	18.02947	8564
316	3	0.385511	17.42316	8276
317	9	0.527701	12.99789	6174
318	1	0.487181	13.99579	6648
319	2	0.434027	15.58737	7404
320	3	0.487893	13.97684	6639
321	2	0.45319	14.97053	7111
322	3	0.487893	13.97684	6639
323	3	0.453669	14.95579	7104
324	2	0.42525	15.88842	7547
325	2	0.406731	16.56632	7869
326	2	0.403457	16.69263	7929
327	2	0.406731	16.56632	7869
328	2	0.406731	16.56632	7869
329	2	0.382325	17.56	8341
330	1	0.487181	13.99579	6648
331	1	0.487181	13.99579	6648
332	1	0.487181	13.99579	6648
333	3	0.560345	12.29895	5842
334	3	0.592119	11.69263	5554
335	2	0.575243	12.00632	5703
336	2	0.542357	12.67368	6020
337	3	0.463886	14.64842	6958
338	2	0.500145	13.65895	6488
339	2	0.571092	12.08632	5741
340	2	0.539729	12.73053	6047
341	2	0.554354	12.42105	5900
342	1	0.43228	15.64632	7432

343	1	0.43228	15.64632	7432
344	3	0.559823	12.30947	5847
345	2	0.573488	12.04	5719
346	2	0.592469	11.68632	5551
347	3	0.596464	11.61474	5517
348	2	0.576345	11.98526	5693
349	2	0.42453	15.91368	7559
350	2	0.401679	16.76211	7962
351	2	0.384673	17.45895	8293
352	3	0.336734	19.80211	9406
353	4	0.355355	18.81684	8938
354	2	0.336583	19.81053	9410
355	1	0.319627	20.80842	9884
356	3	0.395135	17.02316	8086
357	2	0.372153	18.01263	8556
358	2	0.3923	17.13895	8141
359	3	0.390415	17.21684	8178
360	2	0.369637	18.12842	8611
361	2	0.367964	18.20632	8648
362	4	0.37564	17.85474	8481
363	2	0.336094	19.83789	9423
364	3	0.35481	18.84421	8951
365	3	0.35481	18.84421	8951
366	1	0.277024	23.85474	11331
367	1	0.40861	16.49474	7835
368	2	0.408721	16.49053	7833
369	1	0.383985	17.48842	8307
370	1	0.231158	28.38947	13485
371	2	0.239899	27.39158	13011
372	2	0.249285	26.39789	12539
373	2	0.25939	25.40842	12069
374	2	0.270301	24.42316	11601
375	2	0.282117	23.4421	11135
376	2	0.294956	22.46526	10671
377	2	0.308955	21.49263	10209
378	3	0.32428	20.52421	9749
379	2	0.324245	20.52632	9750
380	4	0.394461	17.05053	8099
381	3	0.371693	18.03368	8566
382	1	0.385017	17.44421	8286
383	1	0.337528	19.7579	9385
384	2	0.359389	18.61684	8843
385	4	0.38068	17.63158	8375

386	3	0.37991	17.66526	8391
387	2	0.369501	18.13474	8614
388	2	0.375827	17.84632	8477
389	2	0.383007	17.53053	8327
390	3	0.395394	17.01263	8081
391	2	0.409333	16.46737	7822
392	2	0.425973	15.86316	7535
393	2	0.445668	15.20632	7223
394	2	0.469095	14.49684	6886
395	3	0.564446	12.21684	5803
396	2	0.52604	13.03579	6192
397	2	0.495775	13.77053	6541
398	2	0.52157	13.13895	6241
399	3	0.484747	14.06105	6679
400	2	0.450475	15.05474	7151
401	1	0.420611	16.05263	7625
402	2	0.527701	12.99789	6174
403	2	0.373772	17.93895	8521
404	2	0.359003	18.63579	8852
405	2	0.350387	19.06947	9058
406	2	0.344566	19.37474	9203
407	2	0.346272	19.28421	9160
408	2	0.359518	18.61053	8840
409	1	0.378428	17.73053	8422
410	3	0.402431	16.73263	7948
411	2	0.334004	19.95579	9479
412	2	0.328998	20.24421	9616
413	2	0.330989	20.12842	9561
414	2	0.32889	20.25053	9619
415	2	0.329575	20.21053	9600
416	2	0.344684	19.36842	9200
417	2	0.362902	18.44632	8762
418	2	0.383153	17.52421	8324
419	2	0.406017	16.59369	7882
420	4	0.431783	15.66316	7440
421	4	0.44686	15.16842	7205
422	3	0.451354	15.02737	7138
423	3	0.433714	15.5979	7409
424	1	0.405963	16.59579	7883
425	2	0.322092	20.65684	9812
426	3	0.339279	19.66105	9339
427	2	0.322092	20.65684	9812
428	3	0.358276	18.67158	8869

429	3	0.35849	18.66105	8864
430	3	0.379048	17.70316	8409
431	2	0.340277	19.60632	9313
432	2	0.358532	18.65895	8863
433	2	0.340046	19.61895	9319
434	2	0.323304	20.58316	9777
435	3	0.308069	21.55158	10237
436	2	0.293918	22.54105	10707
437	2	0.280958	23.53474	11179
438	1	0.269044	24.53263	11653
439	2	0.293976	22.53684	10705
440	2	0.281063	23.52632	11175
441	2	0.269188	24.52	11647
442	1	0.258232	25.5179	12121
443	2	0.323026	20.6	9785
444	1	0.307376	21.5979	10259
445	2	0.42429	15.92211	7563
446	2	0.452508	14.99158	7121
447	2	0.338135	19.72421	9369
448	2	0.346911	19.25053	9144

(5) The space syntax data statistical of main and estern paths in Chengde Mountain Resort

Index	Connectivity	Integration [HH]	Mean Depth	Total Depth
1	5	0.389789	16.98871	7526
2	3	0.370488	17.82167	7895
3	4	0.393624	16.83296	7457
4	5	0.399144	16.614	7360
5	5	0.399028	16.61851	7362
6	1	0.375068	17.61625	7804
7	3	0.375476	17.59819	7796
8	3	0.375476	17.59819	7796
9	2	0.375272	17.60722	7800
10	1	0.354004	18.60497	8242
11	1	0.366894	17.98646	7968
12	3	0.367235	17.97066	7961
13	2	0.355554	18.52822	8208
14	2	0.365099	18.06998	8005
15	4	0.387546	17.08126	7567
16	2	0.365099	18.06998	8005
17	2	0.345153	19.05643	8442
18	2	0.347018	18.95937	8399
19	3	0.40757	16.2912	7217
20	4	0.430378	15.48081	6858
21	3	0.455515	14.68172	6504
22	4	0.403224	16.45598	7290
23	3	0.379085	17.44018	7726
24	1	0.357395	18.43792	8168
25	4	0.379189	17.43567	7724
26	3	0.381021	17.35666	7689
27	2	0.382976	17.27314	7652
28	3	0.403048	16.46275	7293
29	2	0.400591	16.55756	7335
30	2	0.424946	15.66592	6940
31	3	0.484194	13.87133	6145
32	2	0.47503	14.11964	6255
33	6	0.472834	14.18059	6282
34	3	0.450608	14.8307	6570
35	2	0.439071	15.19413	6731
36	3	0.443229	15.06095	6672
37	4	0.466364	14.36343	6363
38	4	0.477	14.06546	6231
39	3	0.483855	13.88036	6149
40	2	0.499164	13.48533	5974
41	4	0.517309	13.0474	5780

42	2	0.486927	13.7991	6113
43	3	0.47454	14.13318	6261
44	5	0.459228	14.57111	6455
45	4	0.435401	15.31377	6784
46	8	0.445734	14.98194	6637
47	3	0.421251	15.79458	6997
48	6	0.400069	16.57788	7344
49	2	0.380548	17.37698	7698
50	3	0.370587	17.81716	7893
51	2	0.360099	18.307	8110
52	4	0.373849	17.67043	7828
53	3	0.377169	17.5237	7763
54	1	0.355691	18.52144	8205
55	2	0.373192	17.69977	7841
56	2	0.391004	16.93905	7504
57	2	0.411641	16.13996	7150
58	3	0.430781	15.46727	6852
59	2	0.409626	16.21445	7183
60	3	0.428508	15.54402	6886
61	1	0.400999	16.54176	7328
62	3	0.39805	16.65689	7379
63	1	0.375988	17.57562	7786
64	5	0.41965	15.85102	7022
65	3	0.394242	16.80813	7446
66	2	0.371235	17.78781	7880
67	4	0.371585	17.77201	7873
68	2	0.351167	18.74718	8305
69	1	0.350721	18.76975	8315
70	3	0.332796	19.72686	8739
71	1	0.315962	20.72461	9181
72	2	0.316107	20.71558	9177
73	2	0.300946	21.7088	9617
74	1	0.287113	22.70655	10059
75	3	0.398222	16.65011	7376
76	5	0.418632	15.88713	7038
77	2	0.407329	16.30023	7221
78	2	0.392895	16.8623	7470
79	3	0.418441	15.89391	7041
80	3	0.497455	13.52822	5993
81	3	0.50584	13.32054	5901
82	2	0.493278	13.63431	6040
83	2	0.50034	13.45598	5961
84	3	0.511652	13.18059	5839

85	1	0.472915	14.17833	6281
86	4	0.526684	12.83296	5685
87	6	0.406909	16.31603	7228
88	4	0.419331	15.8623	7027
89	2	0.382128	17.30926	7668
90	3	0.393175	16.85102	7465
91	2	0.382128	17.30926	7668
92	1	0.382022	17.31377	7670
93	3	0.46076	14.52596	6435
94	2	0.40914	16.23251	7191
95	4	0.43754	15.24379	6753
96	3	0.46076	14.52596	6435
97	4	0.48943	13.73363	6084
98	2	0.460607	14.53047	6437
99	5	0.437679	15.23928	6751
100	4	0.523191	12.91196	5720
101	6	0.555732	12.21445	5411
102	4	0.52769	12.81038	5675
103	2	0.515089	13.09932	5803
104	3	0.515955	13.07901	5794
105	3	0.524582	12.88036	5706
106	4	0.530326	12.75169	5649
107	2	0.529715	12.76524	5655
108	3	0.543266	12.47178	5525
109	3	0.520625	12.97065	5746
110	4	0.536301	12.62077	5591
111	3	0.532063	12.71332	5632
112	2	0.513747	13.13093	5817
113	3	0.470016	14.25959	6317
114	3	0.463312	14.45147	6402
115	1	0.43132	15.44921	6844
116	4	0.460991	14.51919	6432
117	5	0.451788	14.79458	6554
118	2	0.422152	15.76298	6983
119	5	0.381547	17.33409	7679
120	3	0.388582	17.03837	7548
121	4	0.399028	16.61851	7362
122	2	0.39949	16.60045	7354
123	2	0.3765	17.55305	7776
124	3	0.357488	18.43341	8166
125	2	0.348463	18.88488	8366
126	1	0.238748	27.10384	12007
127	2	0.248236	26.10609	11565

128	2	0.258461	25.11287	11125
129	2	0.269512	24.12415	10687
130	2	0.281492	23.13996	10251
131	2	0.294525	22.16027	9817
132	2	0.308754	21.1851	9385
133	2	0.324351	20.21445	8955
134	2	0.341524	19.24831	8527
135	2	0.360522	18.28668	8101
136	2	0.381653	17.32957	7677
137	2	0.405296	16.37698	7255
138	2	0.431927	15.42889	6835
139	2	0.462149	14.48533	6417
140	3	0.496739	13.54628	6001
141	2	0.460299	14.5395	6441
142	1	0.428707	15.53725	6883
143	3	0.420161	15.83296	7014
144	2	0.431859	15.43115	6836
145	2	0.449435	14.86682	6586
146	2	0.473482	14.16253	6274
147	3	0.501248	13.43341	5951
148	2	0.48166	13.93905	6175
149	2	0.465735	14.38149	6371
150	2	0.454091	14.72461	6523
151	3	0.448121	14.90745	6604
152	2	0.446166	14.9684	6631
153	3	0.44631	14.96388	6629
154	3	0.432671	15.40406	6824
155	3	0.448485	14.89616	6599
156	2	0.405832	16.35666	7246
157	2	0.382234	17.30474	7666
158	3	0.390838	16.94582	7507
159	2	0.39851	16.63883	7371
160	2	0.419459	15.85779	7025
161	5	0.440753	15.13996	6707
162	3	0.412256	16.11738	7140
163	4	0.41244	16.11061	7137
164	2	0.38722	17.09481	7573
165	2	0.345023	19.06321	8445
166	2	0.364906	18.07901	8009
167	2	0.345066	19.06095	8444
168	2	0.364954	18.07675	8008
169	2	0.387274	17.09255	7572
170	5	0.412502	16.10835	7136

171	2	0.352018	18.70429	8286
172	3	0.372839	17.71558	7848
173	3	0.396165	16.73138	7412
174	2	0.422217	15.76072	6982
175	3	0.333479	19.68849	8722
176	2	0.352018	18.70429	8286
177	2	0.372739	17.72009	7850
178	2	0.352018	18.70429	8286
179	2	0.378513	17.46501	7737
180	2	0.369348	17.87359	7918
181	2	0.364376	18.10384	8020
182	2	0.361655	18.23251	8077
183	2	0.370389	17.82619	7897
184	2	0.385597	17.16253	7603
185	2	0.407149	16.307	7224
186	4	0.4341	15.35666	6803
187	4	0.433147	15.38826	6817
188	2	0.438026	15.22799	6746
189	3	0.444657	15.0158	6652
190	2	0.415983	15.98194	7080
191	2	0.390672	16.9526	7510
192	4	0.368166	17.92777	7942
193	2	0.347805	18.91874	8381
194	2	0.329618	19.90745	8819
195	3	0.329657	19.90519	8818
196	2	0.347805	18.91874	8381
197	2	0.347805	18.91874	8381
198	2	0.171878	37.25959	16506
199	2	0.176583	36.29345	16078
200	2	0.181529	35.33183	15652
201	2	0.186735	34.37472	15228
202	2	0.192221	33.42212	14806
203	2	0.198012	32.47404	14386
204	2	0.204131	31.53047	13968
205	2	0.210609	30.59142	13552
206	2	0.217477	29.65689	13138
207	2	0.224772	28.72686	12726
208	2	0.232534	27.80135	12316
209	2	0.240809	26.88036	11908
210	2	0.24965	25.96388	11502
211	2	0.259116	25.05192	11098
212	2	0.269275	24.14447	10696
213	2	0.280207	23.24154	10296

214	2	0.292002	22.34312	9898
215	2	0.304766	21.44921	9502
216	2	0.318624	20.55982	9108
217	2	0.333721	19.67494	8716
218	2	0.350232	18.79458	8326
219	2	0.368362	17.91874	7938
220	2	0.388364	17.0474	7552
221	2	0.410539	16.18059	7168
222	2	0.435263	15.31828	6786
223	2	0.463001	14.4605	6406
224	2	0.494338	13.60722	6028
225	3	0.53002	12.75847	5652
226	3	0.549537	12.34086	5467
227	5	0.546925	12.39503	5491
228	2	0.551073	12.30926	5453
229	3	0.524582	12.88036	5706
230	2	0.490735	13.69978	6069
231	2	0.461608	14.50113	6424
232	2	0.457174	14.63205	6482
233	4	0.454915	14.69978	6512
234	3	0.429241	15.51919	6875
235	2	0.406011	16.34989	7243
236	3	0.385382	17.17156	7607
237	5	0.366894	17.98646	7968
238	3	0.352018	18.70429	8286
239	2	0.337846	19.44695	8615
240	4	0.342923	19.17382	8494
241	1	0.325077	20.17156	8936
242	3	0.369397	17.87133	7917
243	4	0.366456	18.00677	7977
244	3	0.367872	17.94131	7948
245	4	0.366456	18.00677	7977
246	3	0.369397	17.87133	7917
247	3	0.369397	17.87133	7917
248	2	0.432604	15.40632	6825
249	2	0.432468	15.41084	6827
250	4	0.436848	15.26637	6763
251	3	0.411089	16.16027	7159
252	3	0.388364	17.0474	7552
253	3	0.409869	16.20542	7179
254	2	0.384845	17.19413	7617
255	2	0.387491	17.08352	7568
256	2	0.41201	16.12641	7144

257	4	0.440823	15.1377	6706
258	4	0.443229	15.06095	6672
259	2	0.446961	14.94357	6620
260	2	0.454316	14.71783	6520
261	4	0.463857	14.43567	6395
262	3	0.475767	14.09932	6246
263	3	0.48943	13.73363	6084
264	4	0.507981	13.26862	5878
265	5	0.52759	12.81264	5676
266	4	0.50034	13.45598	5961
267	2	0.472672	14.1851	6284
268	4	0.531756	12.72009	5635
269	2	0.533297	12.68623	5620
270	3	0.537763	12.58917	5577
271	3	0.465499	14.38826	6374
272	2	0.495847	13.56885	6011
273	2	0.436157	15.28894	6773
274	2	0.363417	18.14899	8040
275	2	0.34382	19.12641	8473
276	2	0.326229	20.10384	8906
277	2	0.324885	20.18284	8941
278	2	0.339508	19.35666	8575
279	2	0.357118	18.45147	8174
280	2	0.402167	16.49661	7308
281	2	0.378306	17.47404	7741
282	2	0.167397	38.23025	16936
283	2	0.163124	39.20542	17368
284	2	0.159046	40.1851	17802
285	2	0.155149	41.1693	18238
286	2	0.151422	42.15801	18676
287	2	0.147854	43.15124	19116
288	1	0.144435	44.14898	19558
289	4	0.423253	15.72461	6966
290	3	0.448923	14.88262	6593
291	3	0.425143	15.65914	6937
292	3	0.406071	16.34763	7242
293	2	0.397534	16.6772	7388
294	2	0.395825	16.74492	7418
295	2	0.397706	16.67043	7385
296	4	0.401582	16.51919	7318
297	4	0.400475	16.56208	7337
298	4	0.38924	17.01129	7536
299	2	0.377892	17.4921	7749

300	2	0.382605	17.28894	7659
301	3	0.406789	16.32054	7230
302	2	0.412749	16.09932	7132
303	2	0.395314	16.76524	7427
304	2	0.381021	17.35666	7689
305	2	0.375629	17.59142	7793
306	3	0.371036	17.79684	7884
307	2	0.358416	18.38826	8146
308	4	0.368658	17.90519	7932
309	3	0.366943	17.9842	7967
310	2	0.365534	18.04966	7996
311	2	0.36851	17.91196	7935
312	2	0.380443	17.38149	7700
313	2	0.399375	16.60497	7356
314	2	0.347674	18.92551	8384
315	2	0.350187	18.79684	8327
316	4	0.400359	16.56659	7339
317	3	0.379189	17.43567	7724
318	2	0.360805	18.27314	8095
319	2	0.396792	16.70655	7401
320	2	0.373445	17.68849	7836
321	2	0.354276	18.59142	8236
322	2	0.355005	18.55531	8220
323	2	0.374915	17.62302	7807
324	2	0.398452	16.64108	7372
325	3	0.37686	17.53725	7769
326	2	0.355646	18.5237	8206
327	2	0.336692	19.51016	8643
328	2	0.319657	20.49661	9080
329	2	0.319657	20.49661	9080
330	2	0.336692	19.51016	8643
331	2	0.355646	18.5237	8206
332	2	0.452306	14.77878	6547
333	3	0.43132	15.44921	6844
334	4	0.425733	15.63883	6928
335	3	0.449947	14.85102	6579
336	3	0.431927	15.42889	6835
337	5	0.429909	15.49661	6865
338	3	0.423188	15.72686	6967
339	5	0.459993	14.54853	6445
340	3	0.428907	15.53047	6880
341	3	0.401699	16.51467	7316
342	3	0.428907	15.53047	6880

343	3	0.410295	16.18962	7172
344	3	0.419331	15.8623	7027
345	5	0.448267	14.90293	6602
346	3	0.419267	15.86456	7028
347	2	0.393287	16.8465	7463
348	4	0.477578	14.04966	6224
349	3	0.49091	13.69526	6067
350	2	0.438026	15.22799	6746
351	3	0.4341	15.35666	6803
352	2	0.444228	15.02935	6658
353	3	0.457629	14.61851	6476
354	2	0.473564	14.16027	6273
355	3	0.477165	14.06095	6229
356	3	0.473158	14.17156	6278
357	3	0.451124	14.8149	6563
358	2	0.408837	16.24379	7196
359	2	0.38722	17.09481	7573
360	2	0.378565	17.46275	7736
361	2	0.373142	17.70203	7842
362	3	0.37024	17.83296	7900
363	2	0.382552	17.2912	7660
364	3	0.3692	17.88036	7921
365	4	0.368264	17.92325	7940
366	3	0.36704	17.97969	7965
367	2	0.348068	18.90519	8375
368	2	0.330446	19.86004	8798
369	2	0.3277	20.01806	8868
370	2	0.332676	19.73364	8742
371	2	0.347937	18.91196	8378
372	4	0.368117	17.93002	7943
373	2	0.348772	18.86907	8359
374	2	0.331358	19.80813	8775
375	2	0.315601	20.74718	9191
376	2	0.313309	20.89165	9255
377	2	0.31338	20.88713	9253
378	2	0.314164	20.83747	9231
379	2	0.32848	19.97291	8848
380	3	0.344722	19.07901	8452
381	3	0.362891	18.17382	8051
382	2	0.383882	17.23476	7635
383	4	0.327002	20.05869	8886
384	2	0.310804	21.05192	9326
385	2	0.310804	21.05192	9326

386	2	0.343307	19.1535	8485
387	2	0.296136	22.04515	9766
388	2	0.407449	16.29571	7219
389	3	0.404643	16.40181	7266
390	3	0.404702	16.39955	7265
391	2	0.382181	17.307	7667
392	2	0.362987	18.1693	8049
393	3	0.371185	17.79007	7881
394	5	0.430848	15.46501	6851
395	3	0.406909	16.31603	7228
396	1	0.405058	16.38601	7259
397	1	0.405058	16.38601	7259
398	2	0.382234	17.30474	7666
399	2	0.39117	16.93228	7501
400	2	0.414111	16.04966	7110
401	2	0.408353	16.26185	7204
402	2	0.412872	16.09481	7130
403	2	0.419459	15.85779	7025
404	2	0.447323	14.93228	6615
405	3	0.429909	15.49661	6865
406	2	0.406011	16.34989	7243
407	3	0.385059	17.1851	7613
408	1	0.3627	18.18284	8055
409	2	0.366504	18.00452	7976
410	2	0.349965	18.80813	8332
411	3	0.335058	19.60045	8683
412	2	0.486841	13.80135	6114
413	2	0.48513	13.8465	6134
414	2	0.491784	13.67269	6057
415	3	0.5334	12.68397	5619
416	2	0.537763	12.58917	5577
417	2	0.490299	13.71106	6074
418	2	0.459228	14.57111	6455
419	2	0.432333	15.41535	6829
420	2	0.408837	16.24379	7196
421	3	0.3882	17.05418	7555
422	3	0.369002	17.88939	7925
423	2	0.351435	18.73364	8299
424	2	0.354413	18.58465	8233
425	4	0.368658	17.90519	7932
426	2	0.349434	18.83522	8344
427	3	0.334611	19.62528	8694
428	4	0.335465	19.57788	8673

Appendix 1 The space syntax data statistical of landscape

429	3	0.336939	19.49661	8637
430	2	0.347149	18.9526	8396
431	2	0.328168	19.99097	8856
432	3	0.335587	19.57111	8670
433	3	0.351033	18.75395	8308
434	3	0.338883	19.39052	8590
435	2	0.342966	19.17156	8493
436	2	0.351973	18.70655	8287
437	1	0.304195	21.48759	9519
438	3	0.319768	20.48984	9077
439	3	0.328051	19.99774	8859
440	3	0.331756	19.78555	8765
441	2	0.33518	19.59368	8680
442	1	0.416045	15.97968	7079
443	1	0.392337	16.88488	7480

Appendix 2 Questionnaire of ten scenes image assessment of the West Lake

This is an anonymous investigation of ten scenes image assessment of the West Lake which is a content of Ph.D thesis. It is not for any commercial purposes. I sincerely hope that you can cooperate with me, Thank you very much!

DAD, Politecico di Torino

Assessment Standards

Identifying	Srongest	Stronger	Strong	weak	No feeling
	5	4	3	2	1
Impressiveness	Srongest	Stronger	Strong	weak	No feeling
	5	4	3	2	1
Inheritance	Srongest	Stronger	Strong	weak	No feeling
	5	4	3	2	1

Point table of landscape assessment factors

Types	Assessment factors	Identifying	Impressiveness	Inheritance
Nature	terrain of mountain and river			
	species of plants			
	seasonal characteristics of plants			
	meteorological phenomena			
	natural light			
	natural sound			
Architecture	architectural founction and type			
	architectural outside interface			
	plaque and stone tablet			
	artificial sound			
History and culture	myths and historical stories			
	religious belief			

Basic situation of subject

Age	18-24 25-44 45-59 above 60
Sex	male femal
Education	junior school senior school university above master
Job	worker technician teacher civil servant merchant student farmer others
Professional background	Professional not Professional
Region	local resident temporarily citizens tourist

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